October 3, 2003

2010 Census Business Architecture

Version 1.0

This binder contains the 2010 Census Business Architecture work products. They are part of a broad set of Architecture products to assist in planning for the 2010 Census.

USCENSUSBUREAU

Helping You Make Informed Decisions

DOCUMENT HISTORY

Subject 2010 Census Business Architecture Work Products

Distribution list
2010 Census Architecture Steering Committee
2010 Census Architecture Team
2010 Census Architecture Support Team

Release date 10/03/2003

Release number 1.0

History of changes

Release No.	Release Date	Description
1.0	10/03/2003	Initial work products for review.
1.1		
2.0		
2.1		
2.1		
2.2		
3.0		
3.1		

SIGN-OFF SHEET

I have read the attached 2010 Census Architecture Work Products and accept it as a completed deliverable for the task.

_____ Date _____

INTRODUCTION

Table of Contents

Executive Summary

An Enterprise Architecture (EA) is the "blueprint" of an organization's business processes and the data, applications, interfaces, and technology needed to efficiently perform those processes. The Decennial has initiated an effort to develop an architecture for the 2010 Census program called the 2010 Census Architecture (2010 CA). The 2010 Census Architecture is intended to facilitate:

- Planning for the 2010 Census
- Improving of operations
- Improving systems efficiency and integration
- Change management
- Cost formulation.

Key project dates and accomplishments include:

10/01/2002 – 01/06/2003 – Development of various plans, architecture work products and framework recommendation, creation of the Roadmap document and other program support materials, presentations, and work products.

01/06/2003 – Kick-off of the Architecture Team and Steering Committee.

05/12/2003 – Presentation of the Architecture Team's work on the activity model to the Steering Committee.

08/01/2003 – 08/31/2003 – Division review and validation of the activity model.

10/02/2003 – Completion of the Business Architecture by the Architecture Team and the Support Team.

Project scope

The scope of the 2010 CA consists of those activities performed specifically to accomplish the 2010 Census within the Bureau of the Census and the data required by those activities. This document summarizes the accomplishments of the first phase of the 2010 Census Architecture development. It was recognized that the business activities for the 2010 Census are evolving as research and development and testing programs are conducted. Accordingly, the basis selected for the architecture is the 2010

Census Baseline, recognizing that the architecture will need to be updated as final process decisions are made.

An enterprise architecture contains a variety of products that describe the business of the enterprise. These are represented in a framework that indicates the sequence of the development of these products and their interdependency. One of the first tasks in the 2010 CA effort was to establish an appropriate architecture framework. Phase I addressed the Business Architecture that is depicted as the first 2 rows of the framework. This is illustrated in Figure 1.

The framework is a matrix in which the columns are types of information that describe the enterprise such as: data, function, network, people, etc. and the rows are views of this information from the perspective of different types of users such as: planners, owners, designers, builders, etc. The architecture development can proceed through the framework by developing products in a row and then proceeding to the next row; and products frequently build upon the products in the preceding row. For example, the Entity Relationship Diagram in the Owner row is expanded and further detailed in the Logical Data Model in the Designer row. The first phase addressed the Business Architecture in the Planner and Owner rows. The second phase will address the Logical Architecture in the Designer row. The Logical Architecture will then be transitioned to develop the Physical Architecture, which will then be used to guide development of systems to support the 2010 Census.

This framework contains those products that will be useful to the 2010 Census and those that will meet OMB requirements. Figure 2, below depicts a mapping of basic OMB requirements and the products in the Business Architecture portion of the 2010 CA Framework.

Key participants

The development of the 2010 Census Architecture requires significant contribution from the business. There are decisions regarding the scope of the architecture and the specific architecture products as well as the need to resolve issues and define the activities, data, and data and activity interactions that make up the 2010 Census process. Accordingly, individuals with detailed knowledge of these processes, from a management and hands-on perspective are essential. Three groups were established to achieve the 2010 CA:

- 2010 Census Architecture Steering Committee
- 2010 Census Architecture Team

- 2010 Census Architecture Support Team

Each group made major contributions to the development of Phase I products. The Steering Committee set the direction for the effort and made difficult scoping and approach decisions throughout the phase. The Architecture Team made up of representatives from each division developed the work products. The Support Team assisted the Architecture Team by facilitating work sessions, maintaining the content in the modeling tool, providing methodology guidance, and identifying and tracking issues and their resolution.

Census Enterprise Architecture

The Census Enterprise Architecture (Census EA) is maintained by the Enterprise Architecture Office (EAO). The Census EA is a Federated Model, which is:

- A framework under development by the Department of Commerce (DOC).
- Designed to be implemented at the department level, in order to integrate Census, NOAA, etc., into a true DOC Enterprise Architecture.
- Also designed to be implemented at the Bureau to integrate Census domain architectures into the true Census Enterprise view.

Each Directorate is considered a domain within the Census and it is envisioned that each Directorate will develop its own domain architecture. The Census EA maintains enterprise architecture objects that are Census-wide in scope. The 2010 Census Architecture may incorporate some objects by reference. Since the 2010 CA is the first domain-level architecture in the Bureau, the 2010 CA Support Team is participating in work sessions with the EAO to work out procedures for ongoing maintenance and use of these shared products as well as linkages between the enterprise and domain architectures. This effort will continue in Phase II.

Accomplishments

This first phase completed the products specified in the Business Architecture, Planner and Owner rows in the 2010 Census Architecture Framework. Many of the products such as the Functional Decomposition Diagram, Activity Model, and Entity Relationship Diagram are contained in the tool repository.

Some of the products in the 2010 CA Framework already exist in the Census Bureau. For example, the Organization Chart, Critical Business Concerns, and Standards are all maintained in the Census

Enterprise Architecture maintained by the Enterprise Architecture Office. For purposes of the 2010 Census Architecture, these products are used as-is, or a subset is used.

In this first phase both the Steering Committee and the Architecture Team have developed an understanding of the architecture concept, some of the techniques involved in developing it, and the purposes for which it may be used.

Summary of next steps

The next phase of the 2010 Census Architecture addresses the Logical Architecture, which is the Designer row of the Framework. This will include the development of a Logical Data Model using the Entity Relationship Diagram developed in the first phase as its basis. This will be a highly detailed, logical model, of the data of concern to the 2010 Census process. In the course of developing the data model, some enhancements to the Activity Model inevitably will be required.

The interaction of the data and the activities will be analyzed to identify application areas. These are not systems, but are groupings of activities and data that have a strong affinity with each other (same data items heavily used by a group of related activities). One or more of these application areas may be combined to define the scope and specify the requirements for an application system. In addition, interface requirements will be assessed using the Node Connectivity Diagram developed in the first phase and enhanced in the second phase.

2010 Census Architecture Framework

VIEWS	WHAT DATA	HOW FUNCTION	WHERE NETWORK	WHO PEOPLE	WHEN TIME	WHY MOTIVATION
Business Architecture (Planner)	1. List of Entities Important to the Business 2. Information Dictionary	3. List of Business Functions 4. Business Reference Model (BRM/OMB) [Lines of Business/ Sub-Functions]	5. List of Business Locations 6. Standards Profile	7. List of Organizations Important to the Business 8. Organization Chart	9. List of Events/Cycles Important to the Business	10. List of Business Goals, Objectives, and Strategies 11. List of Principles 12. List of Critical Business Concerns 13. List of Risks 14. Operational Concept Diagram
Business Architecture (Owner)	15. Entity Relationship Diagram 16. Information Exchange Matrix (Conceptual)*	17. Functional Decomposition Diagram 18. Activity Model 19. Process Model ** 20. Information Assurance Trust Model*	21. Locations Mapped to Functions 22. Information Assurance Risk Assessment*	23. Node Connectivity Description (Conceptual)		
Logical Architecture (Designer)	24. Logical Data Model 25. Information Exchange Matrix (Logical)*	26. Application Architecture	27. Interface Description (Conceptual) 28. Distributed System Architecture (Logical)	29. Node Connectivity Description (Logical)		
Physical Architecture (Builder)	30. Physical Data Model 31. Information Exchange Matrix (Physical)*	32. System Design 33. System Functionality Description	34. Distributed System Architecture (Physical), 35. Technical Reference Model (TRM/OMB) 36. Technical Architecture (as required) 37. System Performance Parameters (as required) 38. Rule Design (as required)	39. Node Connectivity Description (Physical)		

Notes:
1) Gray areas indicate cells that are not currently in scope for architecture development ;
2)* Low priority;
3)** Only for selected parts of the architecture

Changes since the August Framework:
- ✓ Product 27 moved from Owner row to Designer row
- ✓ Product "Customer Needs" has been deleted

Figure 1: 2010 Census Architecture Framework

The Information Captured in the Products Can Help Architects Satisfy the Reporting Requirements of OMB Circular A-130

OMB Circular A-130 Reporting Requirements	***Some Corresponding 2010 CA Business Architecture Framework Products***		
Business Process	✓ Activity Model ✓ Operational Concept Diagram	✓ Functional Decomposition Diagram & Outline	✓ List of Business Functions
Information Flows & Relationships	✓ Activity Model ✓ Node Connectivity Description (conceptual)	✓ List of Business Locations ✓ Locations Mapped to Functions	✓ Information Exchange Matrix
Applications	(Applications are not included in the Business Architecture)		
Data Descriptions & Relationships	✓ Entity Relationship Diagram	✓ Information Exchange Matrix	
Technology Infrastructure	✓ Node Connectivity Description (conceptual)		
Technical Reference Model	(Not a Framework product, but a Universal Reference Resource within the Framework)		
Standards Profile (including security standards)	✓ Standards Profile		
Information Assurance	✓ Information Exchange Matrix	➢ Information Assurance Trust Model	➢ Information Assurance Risk Assessment

Note

✓ **= Framework product is completed**

Figure 2: Business Architecture Products Map to OMB Requirements

WORK PRODUCTS SUMMARY

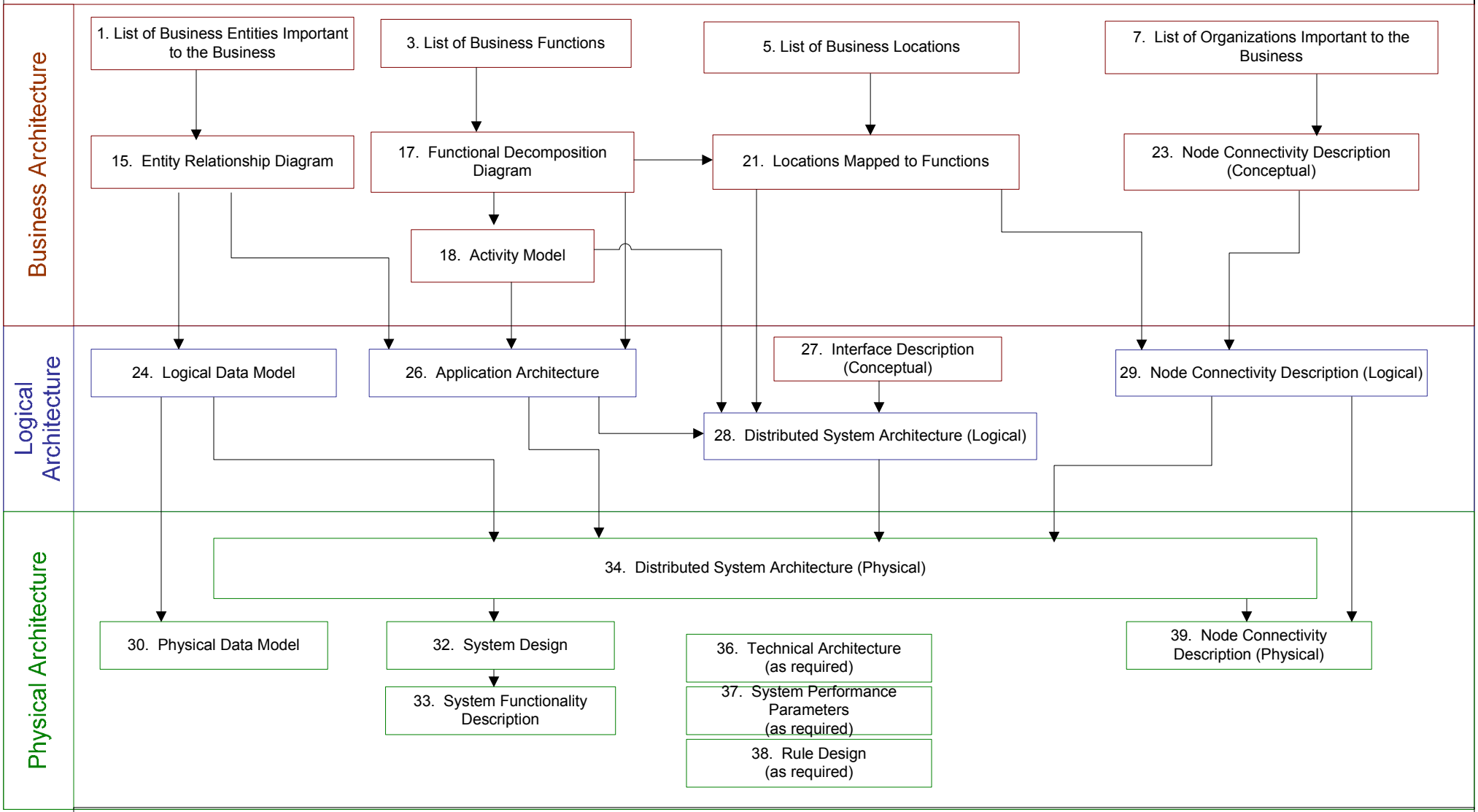
2010 Census Architecture Framework Products Summary 10/3/03			
Work Product #	**Work Product Name**	**Definition**	**Description**
1	List of Entities Important to the Business	A list of information/data objects (or things or assets) in which the enterprise is interested. It is a fairly high-level of aggregation.	List of entities and definitions from the ERD.
2	Information Dictionary	A list that defines all architecture and work product terms.	The entire Popkin System Architect repository.
3	List of Business Functions	A function is a high-level category of work that a business performs. A fairly high level of aggregation.	List of the 2nd level decomposition activities and definitions in the Activity Model.
4	Business Reference Model (BRM)	The Federal Government lines of business and the services provided to citizens in each line of business required by OMB.	A list of the lines of business and definitions from the OMB BRM that apply to the 2010 Census.
5	List of Business Locations	A list of locations in which the enterprise operates. A fairly high-level aggregation.	List of physical locations from the 2000 Census.
6	Standards Profile	A collection of profiles or sets of rules that govern system implementation and operation, such as mandatory and non-mandatory voluntary guidelines, best practices, etc.	List of the standards from the IT Standard Uniform Products.
7	List of Organizations Important to the Business	A list of the organizations important to the business.	List of the decennial participating divisions.
8	Organization Chart	A diagram that shows the hierarchy of sub-organizations within the organization.	Organizational Chart from the HRD intranet site.
9	List of Events/Cycles Important to the Business	A list of the major business events and cycles.	The 2010 Milestones Schedule.

2010 Census Architecture Framework Products Summary 10/3/03			
Work Product #	**Work Product Name**	**Definition**	**Description**
10	List of Business Goals, Objectives, and Strategies	A goal is a desired or needed result to be achieved over a specified period of time to support a mission. An objective is a measurable result (not an activity) that management has agreed to accomplish within a specific timeframe. Strategies are plans for achieving goals.	2010 CENSUS PLANNING MEMORANDA SERIES No. 14 From Teresa Angueira, Chief, Decennial Management Division subject "Re-engineering the 2010 Decennial Census: The Baseline Design for 2010" 2010 CENSUS PLANNING MEMORANDA SERIES No. 13 From Teresa Angueira, Chief, Decennial Management Division subject "Planning for the 2010 Decennial Census: Plan for the Plan".
11	List of Principles	A principle is a statement that supports strategic direction, guides decisions, serves as a tie breaker in settling disputes, and provides a basis for distributed, but integrated, decision making.	List of principles for the development of the 2010 Census Architecture.
12	List of Critical Business Concerns	A business problem or issue on which the business unit is solution-focused.	List of environmental drivers from the IT EA.
13	List of Risks	A list of the major risks faced by the Enterprise.	2010 Census Risk Management Plan prepared by DMD.
14	Operational Concept Diagram	A high-level graphic illustrating the vision of the business unit - the concept of operations.	A modified version of the graphic provided by Lockeed Martin for ITS089.
15	Entity Relationship Diagram	A model of the entities (information/data objects) that are significant to the enterprise. The relationships between entities are implemented later as business rules.	The ERD picture showing the attributes.
16	Information Exchange Matrix	A matrix that identifies the information exchanged between business locations and the relevant attributes of that exchange such as media, quality, quantity, and the level of interoperability required.	The nodes and the need lines in the Node Connectivity Model matrix report from Popkin are used to come up with this.

2010 Census Architecture Framework Products Summary 10/3/03			
Work Product #	**Work Product Name**	**Definition**	**Description**
17	Functional Decomposition Diagram	A hierarchy of business functions independent of organizational structure and current procedures; the separation of a function into its constituent parts or elements.	The 2010 Census Architecture Functional Decomposition Diagram.
18	Activity Model	A model depicting the relationship among sub-functions and includes inputs and outputs. It may also identify constraints and mechanisms.	The Node List outline, the list of activities and definitions, the list of ICOMs and definitions, the activity model diagrams.
19	Process Model	A model depicting sequential process steps, decision points, inputs, outputs, etc.	The sample of process model diagrams for LUCA and the Coding alternatives.
20	Information Assurance Trust Model	A matrix that identifies who trusts whom for what. The trusting and trusted entities can be groups of people, roles, information system elements, locations or collections of data. The things trusted for are confidentiality, integrity, availability, identification, and non-repudiation.	TBD.
21	Locations Mapped to Functions	A matrix showing the list of business locations mapped to business functions.	A matrix of the physical locations and the 3rd level activities in the Activity Model.
22	Information Assurance Risk Assessment	A document that identifies threats and vulnerabilities of information systems or applications and evaluates alternatives for mitigating or accepting the resulting appropriate judgments about system controls and risks.	TBD.
23	Node Connectivity Description (Conceptual)	A model that illustrates and describes the business locations (nodes), the needlines between them, and the characteristics of the information exchanged.	The Node Connectivity Diagram and the descriptions for the nodes and the needlines.

WORK PRODUCT DEPENDENCIES

2010 Census Architecture: Key Work Product Dependencies



Other Products

2. Information Dictionary
4. Business Reference Model (BRM/OMB) [Lines of Business/Sub-Functions
6. Standards Profile
7. List of Organizations Important to the Business (Derived from #8)
8. Organization Charts
9. List of Events/Cycles Important to the Business
10. List of Business Goals, Objectives, and Strategies
11. List of Principles
12. List of Critical Business Concerns
13. List of Risks
14. Operational Concept Diagram
16. Information Exchange Matrix (Conceptual)
19. Process Model
20. Information Assurance Trust Model
22. Information Assurance Risk Assessment
25. Information Exchange Matrix (Logical)
31. Information Exchange Matrix (Physical)
35. Technical Reference Mode; (TRM/OMB)

WORK PRODUCTS

1. LIST OF ENTITIES IMPORTANT TO THE BUSINESS

List of Entities Important to the Business

This is a list of information/data objects (or things or assets) in which the enterprise is interested. It has all the Entity Relationship Diagram Entities and their descriptions. It depicts the enterprise at a high level.

No.	Name	Business Description
1	Activity Schedule	This is a specific task necessary to complete the Census. A task is defined by one or more specific business rules, which must include all related objectives, high level requirements and detailed requirements. Activities may overlap.
2	Address	This is the house number and street or road name or other designation assigned to a housing unit, special place, business establishment, or other structure for purposes of mail delivery and/or to enable emergency services, delivery people, and visitors to find the structure. Examples include: basic street address, city-style address, E-911 address, fire number, house-number-and-street name address, location description, mailing address, and noncity-style address.
3	Applicant	This is an individual that has applied for a census position.
4	Assignment	This is a case, or set of cases, associated with a specific task.
5	Budget	This is the estimated amount of funding available for a task as defined by its requirement.
6	Case	This is the lowest unit of work for a particular activity. For processing or collecting census data, the unit may be an area, address, or group of addresses (may not be contiguous for matching or un-duplication purposes). For other activities, the unit of work may be; coding an application, development of a specification, producing a report, and running a particular computer application.
7	Customer	This is an individual or organization with a vested interest in Census Bureau operations and products. This includes stakeholders and other members of the public that request information or services from the Census Bureau.
8	Employee	This is a Census Bureau employee.
9	Employee Compensation	This is the total compensation to an individual employee based on hours worked or salary, travel expenses, and other miscellaneous expenses. This is analogous to a paycheck.
10	Estimate	This is an approximate value generated using statistical methods.
11	Evaluation Sample Area	These are selected geographic areas where an evaluation is conducted. This includes Coverage Measurement.

No.	Name	Business Description
12	Facility	This is a specific location in which business is performed. This includes headquarters, LCOs, DCCs, QACs, NPC, RCC, and vendor facilities.
13	Form	This is a structured mechanism for recording or communicating information (for example, scripts, promotional material, etc.). This excludes the advance letter and reminder card.
14	Governmental Unit	This is a geographic entity established by legal action to implement specified general- or special-purpose governmental functions. To meet Census criteria, a government must be an organized entity that, in addition to having governmental character, has sufficient discretion in the management of its own affairs to distinguish it as separate from the administrative structure of any other governmental unit. To have governmental character, an entity must exist as a legally organized entity and have legally defined responsibilities to its residents.
15	Group Quarters	Group quarters consist of living quarters in which people live or stay that are normally owned or managed by an entity or organization providing services for the residents. We recognize two general categories of people who reside in-group quarters: (1) the noninstitutionalized population and (2) the institutionalized population.
16	Hardware and Equipment	This is an item of equipment used in an office or field. Examples include MCDs, workstations, printers, scanners, shredders, routers, and telephones.
17	Help Request	This is a record of a request by an employee or a member of the public and the resolution of the request. This includes a request for: technical support, operational guidance, questionnaire assistance, questionnaire fulfillment, a specific product, and Census information.
18	Housing Unit	Housing units are usually houses, apartments, mobile homes, groups of rooms or single rooms that are occupied as separated living quarters. They are residences for single individuals or for groups of individuals or families who live together as households. A housing unit is classified as occupied if it is the usual place of residence of the individual or group of individuals living in it at the time of enumeration, or if the occupants are only temporarily absent, such as away on vacation, in the hospital for a short stay, on a business trip, and will be returning. Housing units temporarily occupied at the time of enumeration entirely by individuals who have a usual residence elsewhere are classified as vacant.

No.	Name	Business Description
19	Instructional Item	This is an item that describes how to perform a task and the tools to accomplish the task for both internal and external users (for example, data dictionary, manual, coding rule, training guide, technical documentation, etc.).
20	Kit	This is a collection of tools and materials to be used by an individual data collector, data capture operator, or facility.
21	Line	This is the connection between two, or more, points.
22	Map	This is an item used to collect or process data or to disseminate as a data product. This includes paper or electronic maps.
23	Overseas Address	This is the location of an overseas respondent that requests a census questionnaire.
24	Payee	This is an external individual or organization that receives payment for goods or services.
25	Payment	These are payments for services, products, or other objects.
26	Person	This is an individual who should be counted according to Census rules.
27	Person or LQ Count	This is the sum of all instances of various kinds of persons or LQs (i.e. HUs or GQs) defined by specific criteria. Note that the Census cannot 'count' until duplicates are resolved.
28	Point	This is the latitude and longitude values describing a spatial location.
29	Polygon	This is a geographic entity defined by one or more lines.
30	Position	This is any role that gathers or processes person, address, and/or unit data. This includes a telephone operator, data capture operator, enumerator, and address lister.
31	Product Package	This is a data format used for review and analysis purposes and/or dissemination to the public. This includes all related documentation.
32	Questionnaire	This is a set of questions, instructions, and other information used to collect information about a person or a place where they can reside. This can be either by paper or automated means, and by either self-response or interviewer assistance. Examples include: questionnaires used for paper self-response, Be Counted, overseas enumeration, GQ Enumeration, and automated instruments for address canvassing, NFRU, Internet, and coverage measurement.

No.	Name	Business Description
		This includes the questions, respondent, and interviewer instructions, layout, examples, categories, and edit requirements particular to the type of questionnaire and/or question. Also, this includes other forms mailed to specific addresses to notify the respondent of census activities (e.g. advance letter).
33	Requirement	This is a goal, objective, or business rule (high level or detailed requirement). Business rules may be functional or non-functional and describe what needs to be done, and to what entity (unit, person or object), in sufficient detail to design and prepare specifications/procedures/design documents, as necessary, for implementation. This requirement supports the development of all necessary systems and their interfaces and dependencies, as well as security and privacy considerations. This also includes all applicable laws, regulations, and policies. For products, this includes format, media, recipient, etc.
34	Respondent	This is the person supplying survey or census information about his or her living quarters and its occupants, or a knowledgeable person if not available.
35	Software	This is an instruction for computers to process data.
36	Specification	This is an instruction on how to create items such as software or procedures guides.

2. INFORMATION DICTIONARY

Information Dictionary

The information dictionary is the Popkin System Architect encyclopedia. The encyclopedia is the knowledge base that contains all the diagrams, definitions, and relationships entered into Popkin System Architect. Many work products are created by exporting data from the information dictionary into other products such as Word Perfect, MS Word, and MS Excel.

The FEAF recommends an enterprise to document their architecture in an automated tool, such as Popkin System Architect. The contents of this 2010 Census Business Architecture binder reflect the objects documented in that tool.

3. LIST OF BUSINESS FUNCTIONS

List of Business Functions

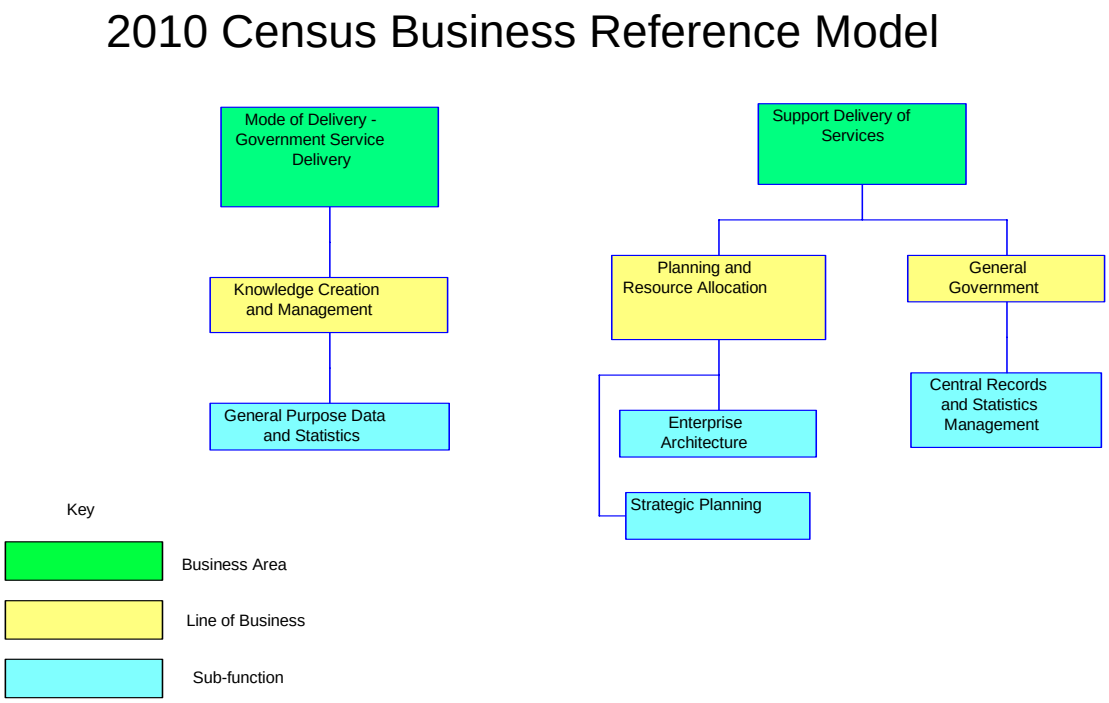
A function is a high level category of work that a business performs. It is a fairly high level of aggregation. This is the second level of decomposition activities and definitions in the Activity model.

Business Function	Description
1. Census Planning	The process by which the Census Bureau studies needed improvements, completes iterative small- and large-scale testing to refine and integrate new methodologies, and determines the design for the decennial census.
2. Infrastructure	This is the process by which the Census bureau develops the foundation tools to support the 2010 Census. The infrastructure supports many functions throughout the decennial census.
3. Data Collection	The process consisting of: 1) Developing and deploying all data collection tools and controls. 2) Collecting information for updating and correcting the living quarters inventory and related spatial data needed to ensure a complete enumeration. 3) Conducting the enumeration by various means for persons residing in these living quarters. 4) Collecting information about the characteristics of these living quarters. 5) Capturing and cleaning-up the respondent and living quarters data for tabulation.
4. Data Products	The process by which the Census Bureau prepares, tabulates and/or summarizes, and disseminates the data from the Census.

4. BUSINESS REFERENCE MODEL LINES

Business Reference Model (BRM)

The Business Reference Model contains the Federal Government lines of business and the services provided to citizens in each line of business required by the Office of Management and Budget. The reference models are maintained in the Census Enterprise Architecture.



Business Area: Mode of Delivery - Government Service Delivery - Describes the mechanisms the government uses to achieve the purpose of government, or its services for citizens. It includes financial vehicles, direct government delivery, and indirect government delivery.

> **Line of Business: Knowledge Creation and Management** - Knowledge Creation and Management involves the programs and activities in which the Federal Government creates or develops a body or set of knowledge, the manipulation and analysis of which can provide inherent benefits for both the Federal and private sector.
>
> > **Sub-function: General Purpose Data and Statistics** - General Purpose Data and Statistics includes activities performed in providing empirical, numerical, and related data and information pertaining to the current state of the nation in areas such as the economy, labor, weather, international trade, etc.

Business Area: Support Delivery of Services - Provides the critical policy, programmatic and managerial foundation to support federal government operations.

Line of Business: Planning and Resource Allocation - Planning and Resource Allocation involves the activities of determining strategic direction, identifying and establishing programs and processes, and allocating resources (capital and labor) among those programs and processes.

Sub-function: Enterprise Architecture - Enterprise Architecture is an established process for describing the current state and defining the target state and transition strategy for an organization's people, processes, and technology.

2010 Census provides data from the solution architecture in support of the Census Bureau's Enterprise Architecture.

Sub-function: Strategic Planning - Strategic Planning entails the determination of annual and long-term goals and the identification of the best approach for achieving those goals.

Line of Business: General Government - General Government involves the general overhead costs of the Federal Government, including legislative and executive activities; provision of central fiscal, personnel, and property activities; and the provision of services that cannot reasonably be classified in any other Line of Business.

As a normal rule, all activities reasonably or closely associated with other Lines of Business or Sub-Functions shall be included in those Lines of Business or Sub-Functions rather than listed as a part of general government. This Line of Business is reserved for central government management operations; agency-specific management activities would not be included here.

Sub-function: Central Records and Statistics Management - Central Records and Statistics Management involves the operations surrounding the management of official documents, statistics, and records for the entire Federal Government. This Sub-Function is intended to include the management of records and statistics for the Federal government as a whole, such as the records management performed by the National Archives and Records Administration (NARA) or the statistics and data collection performed by the Bureau of the Census.

Note: Many agencies perform records and statistics management for a particular business function and as such should be mapped to that line of business. The Central Records and Statistics Management is intended for functions performed on behalf of the entire Federal government.

5. LIST OF BUSINESS LOCATIONS

List of Business Locations

The List of Business Locations is a high level aggregation of locations in which the business operates. The Architecture Team identified ten locations. These are locations from the 2000 Census.

Acronym	Name
ACERO	Accuracy, Coverage, Evaluation Regional Office
CFO	Census Field Office
DCC	Data Capture Center
HQ	Headquarters
LCO	Local Census Office
NPC	National Processing Center
QAC	Questionnaire Assistance Center
RCC	Regional Census Center
RO	Regional Office
TC	Telephone Center

6. STANDARDS PROFILE

Standards Profile

The 2010 Census will use the Census Bureau's Information Technology (IT) Standards as the baseline for the Architecture Standards Profile. In addition, as exceptions or additions to the standards are identified for the 2010 Census, they will be documented as part of this work product.

IT Standards and Uniform Products Program (ITSUPP)

http://cww2.census.gov/it/ssd/itsupp/itsupp_uniform_products.asp - ProductsAtBureau

Products

http://cww2.census.gov/it/ssd/itsupp/itsupp_uniform_products_table.asp - ul1

7. LIST OF ORGANIZATIONS

List of Organizations Important to the Business

This is a high level list of Census Bureau organizations important to the business. It includes a list of participating decennial divisions.

Name of Organization in Decennial CA Scope	Acronyms of Orgs in Decennial CA Scope
Administrative and Customer Services Division	ACSD
Administrative and Management Systems Division	AMSD
Computer Assisted Survey Research Office	CASRO
Computer Services Division	CSvD
Decennial Management Division	DMD
Decennial Systems and Contracts Management Office	DSCMO
Decennial Statistical Studies Division	DSSD
Field Division Headquarters	FLD
Geography Division	GEO
Housing and Household Economic Statistics Division	HHES
Information Systems Support and Review Office	ISSRO
National Processing Center	NPC
Public Information Office	PIO
Population Division	POP
Planning, Research and Evaluation Division	PRED
Regional Office	RO
Statistical Research Division	SRD
Technologies Management Office	TMO
Systems Support Division	SSD

Note:
CA = Census Architecture

8. ORGANIZATION CHARTS

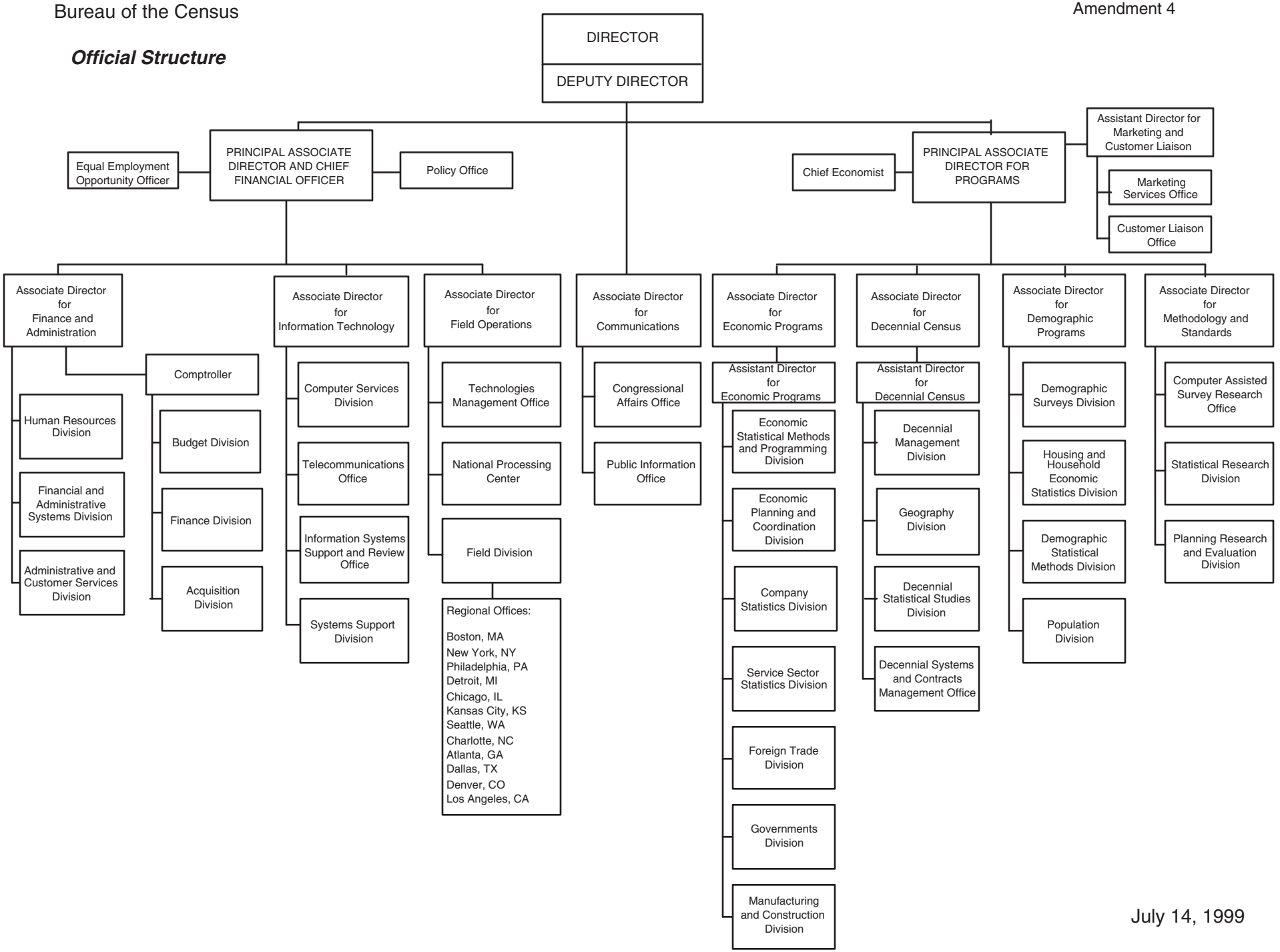
Organization Chart

The organization chart is a diagram that shows the hierarchy of sub-organizations within the organization. This is maintained by the Human Resources Division.

U.S. Department of Commerce
Bureau of the Census

Exhibit 1 to DOO 35-2B
Amendment 4

Official Structure



July 14, 1999

9. LIST OF EVENTS/CYCLES - IMPORTANT

List of Events/Cycles Important to the Business

This is the 2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture. It contains data from the 2010 Reengineered Census Milestone Schedule Draft #15 (March 4, 2003) maintained by DMD. The acquisition data comes from DSCMO. The OMB Exhibit 300 column and the architecture references were developed by the Architecture Support Team.

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2002	Planning and Testing	Acquisitions	Budget/OMB 300	Architecture
Q1 10/1/01- 12/31/01	Begin ongoing special tests program (and continue every year up to 2008 Dress Rehearsal) Begin initial rectification of MAF/TIGER from state/local/tribal GIS files, aerial imagery and Harris field collection (GEO)			

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2002	Planning and Testing	Acquisitions	Budget/OMB 300	Architecture
Q2 01/1/02 - 03/31/02	Document objectives for the 2004 Census Test Determine final 2003 ACS sampling rates, weighting and estimation methodology		Submit FY 2003 budget request to the Congress	
Q3 04/01/02-06/30/02	Develop Plan to evaluate the completeness of the MAF (GEO)		Submit FY 2004 budget request to the DOC Complete acquisition strategy (300B)	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2002	Planning and Testing	Acquisitions	Budget/OMB 300	Architecture
Q4 07/31/02- 09/30/02	Publish 1999-2001 ACS results from the 31 test sites Complete Community Address Updating System (CAUS) Dress Rehearsal field work (GEO) Publish 2001 Census Long Form Transitional Data Base (CLFTDB) results, including change estimates from 2000-2001		Affirm support for reengineering strategy through passage of the FY 2003 appropriation Submit FY 2004 budget request to OMB	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2003	Planning and Testing	Acquisitions	Budget/OMB 300	Architecture
Q1 10/1/02- 12/31/02	Select sites for the 2004 Census Test Implement ACS data collection in all geographic areas (delayed pending FY03 budget appropriation) Complete Continuous Measurement data collection in 31 test sites Complete 2002 CLFTDB data collection			

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2003	Planning and Testing	Acquisitions	Budget/OMB 300	Architecture
Q1 10/1/02- 12/31/02	Begin enhancement of the geographic partnership programs (delayed pending FY03 budget appropriation) (GEO) Deploy Community Address Updating System (and implement every year thereafter) (delayed until FY04 due to budget) (GEO) Complete risk analysis and response plan.			

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2003	Planning and Testing	Acquisitions	Budget/OMB 300	Architecture
Q2 01/1/03 - 03/31/03	Define requirements for the 2004 Census Test		Submit FY 2004 budget request to the Congress *Associate Director for Decennial Defends FY04 Exhibit 300 before the CITRB* *Develop the First Draft of the FY05 Exhibit 300*	
Q3 04/01/03- 06/30/03	Begin content determination for the 2008 Dress Rehearsal/2010 Census Complete development of an "object model" of new MAF/TIGER database structure (GEO)	*Begin Development of the Independent Gov. Cost Estimate (IGCE) using draft "Initial 2010 Census Logical Architecture (LA) Baseline and Assumptions"*	Submit FY 2005 budget request to the DOC *Complete the first draft of the FY05 Exhibit 300 (Mid - April)*	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2003	Planning and Testing	Acquisitions	Budget/OMB 300	Architecture
Q4 07/01/03- 09/30/03	Complete Census 2000 assessments and evaluations Complete dissemination of Census 2000 testing and experimentation program results Complete precensus address list compilation for the 2004 Census Test		*(July) Re-work the FY 05 Exhibit 300 - Based on comments from DOC* Submit FY 2005 budget request to OMB *(Sept 1) Final Submission of the FY05 Exhibit 300*	*Complete the 2010 Census Business Architecture Baseline*

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2003	Planning and Testing	Acquisitions	Budget/OMB 300	Architecture
Q4 07/01/03- 09/30/03	Begin developing QA strategy for the 2010 Census Publish 2002 Census Long For Transitional Data Base (CLFTDB) results, including change estimates from 2001-2002 (ACS) Complete location corrections for the first 250 counties (GEO)			

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2004	Planning and Testing	Acquisitions	Budget/OMB 300	Architecture
Q1 10/1/03- 12/31/03	Begin defining requirements for an integrated management information and cost model system	Develop acquisition strategy/decision criteria *Make Final Determination on Scope of Integrator Contract*	*Associate Director for Decennial Defends FY05 Exhibit 300 before the CITRB*	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2004	Planning and Testing	Acquisitions	Budget/OMB 300	Architecture
Q2 01/1/04 - 03/31/04	Begin documenting objectives for the 2006 census test		Submit FY 2005 budget request to the Congress *OMB Budget changes reflected in the Final FY05 Exhibit 300 to OMB* *Develop the First Draft of the FY 06 Exhibit 300*	(March) Complete 2010 Census Logical Systems Architecture

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2004	Planning and Testing	Acquisitions	Budget/OMB 300	Architecture
Q3 04/01/04- 06/30/04	Conduct the 2004 Census Test Conduct the 2004 Overseas Census Test Begin change detection methodology for identifying/capturing new growth (and implement every year thereafter) (GEO)	*Complete IGCE & Business Case for the Integrator Contract*	*(April) Complete the First Draft of the FY 06 Exhibit 300* Submit FY 2006 budget request to the DOC	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2004	Planning and Testing	Acquisitions	Budget/OMB 300	Architecture
Q4 07/01/04- 09/30/04	Begin proposing legislation required to support 2010 Census needs, as appropriate Complete location corrections for 600 additional counties (GEO) Begin data collection for the evaluation of MAF completeness (GEO)	*Conduct Vendor Conference for the Integrator Contract (Requirements review and selected LA for 2010 Census - LA will be included as part of the RFP)*	*(July) Rework the FY06 Exhibit 300 - Based on comments from OMB* Submit FY 2006 budget request to OMB *(Sept 1) Final Submission of the FY06 Exhibit 300*	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2004	Planning and Testing	Acquisitions	Budget/OMB 300	Architecture
Q4 07/01/04- 09/30/04	Expand the ACS sample to 250,000 addresses per month across all counties in the U.S. and begin a sample of 3,000 addresses per month across all municipio's in Puerto Rico. Publish 2003 ACS single year results for all states and most geographic areas of 250,000+ persons, including change estimates from 2002 to 2003.			

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2005	Planning and Testing	Acquisitions	Budget/OMB300	Architecture Development
Q1 10/1/04- 12/31/04	Begin developing 2010 Census program requirements Define requirements for the 2006 Census Test Submit proposed topics for 2008 ACS to the Congress Select sites for the 2006 Census Test	*Release RFP for Integrator Contract*	*OMB Changes the FY05 Appropriation prior to sending it to the President* *(Oct) Associate Director for Decennial defends the FY05 Exhibit 300 to the CITRB*	Begin development of the 2010 Census Physical Architecture

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2005	Planning and Testing	Acquisitions	Budget/OMB300	Architecture Development
Q2 01/1/05 - 03/31/05	Implement an integrated quality metrics database (GEO)		Submit FY 2006 budget request to the Congress *OMB changes are reflected in the Final Submission of the FY06 Exhibit 300*	
Q3 04/01/05- 06/30/05	Implement Web-based update process that allows geographic partners to review and update MAF/TIGER across the Internet (GEO)	*Conduct Pre-Award Level A Test Demonstration for the Integrator Contract*	*Complete the first draft of the FY07 Exhibit 300 (Mid-April)* Submit FY 2007 budget request to the DOC	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2005	Planning and Testing	Acquisitions	Budget/OMB300	Architecture Development
Q4 07/31/05- 09/30/05	Complete precensus address list compilation activities using automated tools for the 2006 Census Test Publish 2004 ACS single year results for all states and most geographic areas of 250,000+ persons, including change estimates from 2003 to 2004 Complete location corrections for 700 additional counties (GEO)	*Award integrator contract* *Administer Phase 1 of Integrator Contract (requirements development and Architecture Design)* *(Q4 - FY05 through Q2 -FY 06)*	*(July) Rework the FY07 Exhibit 300 Based on Comments from the OMB* Submit FY 2007 budget request to OMB *(Sept 1) Final Submission of the FY07 Exhibit 300*	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2005	Planning and Testing	Acquisitions	Budget/OMB300	Architecture Development
Q4 07/31/05-09/30/05	Complete data collection and analysis for the evaluation of MAF completeness (GEO)			

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2006	Planning and Testing	Acquisitions	Budget/OMB300	Architecture
Q1 10/1/05- 12/31/05	Determine 2010 Census integrated marketing strategy (Partnerships, Promotion, and Advertising) Submit Actual questions for 2008 ACS to the Congress		*OMB Changes the FY06 Appropriation prior to sending it to the President* *(Oct) Associate Director for Decennial defends the FY07 Exhibit 300 to the CITRB*	
Q2 01/1/06- 03/31/06		Complete award of major contracts for 2010	*OMB Changes are reflected in the FY07 Exhibit 300* Submit FY 2007 budget request to the Congress	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2006	Planning and Testing	Acquisitions	Budget/OMB300	Architecture
Q3 04/01/06- 06/30/06	Conduct the 2006 Census Test Conduct the 2006 Overseas Census Test	*Administer Phase 2 of the Integrator Contract (prototyping)* *Develop Laboratory Prototype*	Submit FY 2008 budget request to the DOC *(April) Complete First draft of the FY08 Exhibit 300*	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2006	Planning and Testing	Acquisitions	Budget/OMB300	Architecture
Q4 07/01/06- 09/30/06	Complete implementation of new MAF/TIGER database GEO) Complete location corrections for 700 additional counties (GEO) Publish 2005 ACS single year results for all geographic areas and population groups of 65,000+ (and every year thereafter)	*Develop Laboratory Prototype (integrator contract)*	Submit FY 2008 budget request to OMB *(July) Rework of the FY08 Exhibit 300* *(Sept) Final Submission of the FY08 Exhibit 300*	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2007	Planning and Testing	Acquisitions	Budget/OMB300	Architecture
Q1 10/1/06- 12/31/06	Complete all 2010 Census program requirements Select 2008 Dress Rehearsal sites	*Conduct Level B Test Demonstration (Integrator Contract*) *Start Revision of Prototype (Integrator Contract*) *Begin Select, Design and Build out of DCCs*	*OMB Changes the FY07 Appropriation prior to sending it to the President* *(Oct) Associate Director for Decennial defends the FY08 Exhibit 300 to the CITRB*	Complete 2010 Census Logical and Physical architectures
Q2 01/1/07- 03/31/07			*OMB Changes are reflected in the FY08 Exhibit 300* Submit FY 2008 budget request to the Congress	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2007	Planning and Testing	Acquisitions	Budget/OMB300	Architecture
Q3 04/01/07- 06/30/07	Determine 2010 Census field data collection office (e.g., LCO) configuration/delineate boundaries Submit proposed 2010 Census topics to the Congress	*Complete Revision of Prototype (Integrator Contract)*	*Submit FY 2008 budget request to the DOC* *(April) Complete First draft of the FY09 Exhibit 300* Submit FY 2009 budget request to the DOC	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2007	Planning and Testing	Acquisitions	Budget/OMB300	Architecture
Q4 07/01/07- 09/30/07	Complete precensus address list updating using automated tools for the 2008 Dress Rehearsal Complete location corrections for 600 additional counties (GEO)	*Conduct Level C Test Demonstration (Integrator Contract)* *Begin Recruitment, Hiring and Training of DCC Management Team (Integrator Contract)*	Submit FY 2009 budget request to OMB *(July) Rework the FY09 Exhibit 300* *(Sept 1) Submit the final FY09 Exhibit 300*	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2008	Planning and Testing	Acquisitions	Budget/OMB300	Architecture
Q1 10/1/07- 12/31/07	Implement content or methodology changes for 2008 ACS data collection	*Deploy Dress Rehearsal System (Integrator Contract)* *Begin to Administer Phase 3 of Integrator Contract*	*OMB Changes the FY08 Appropriation prior to sending it to the President* *(Oct) Associate Director for Decennial defends the FY08 Exhibit 300 to the CITRB*	
Q2 01/1/08 - 03/31/08	Open RCCs		Submit FY 2009 budget request to the Congress *OMB changes are reflected in the final FY09 Exhibit 300*	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2008	Planning and Testing	Acquisitions	Budget/OMB300	Architecture
Q3 04/01/08- 06/30/08	Submit proposed 2010 Census questions to Congress Conduct the 2008 Dress Rehearsal		Submit FY 2010 budget request to the DOC *Complete first draft of the FY10 Exhibit 300*	
Q4 07/01/08- 09/30/08	Complete initial nationwide rectification of coordinates in MAF/TIGER (GEO) Publish 2007 ACS results, which includes the first 3-year (2005-2007) accumulation for all geographic areas and population groups of less than 20,000 population (and every year thereafter)	*Complete Select, Design and Build-out of DCCs (Integrator Contract)* *Complete Recruitment, Hiring and Training of the DCC Management Team (Integrator Contract)* *Pre-production and Manufacture of Production Systems (Integrator Contract)*	Submit FY 2010 budget request to OMB *(July) Rework FY10 Exhibit 300* *(Sept) Submit the Final FY10 Exhibit 300*	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2009	Planning and Testing	Acquisitions	Budget/OMB300	Architecture
Q1 10/1/08- 12/31/08	Complete 2008 ACS data collection		*OMB Changes the FY09 Appropriation prior to sending it to the President* *(Oct) Associate Director for Decennial defends the FY09 Exhibit 300 before the CITRB*	
Q2 01/1/09 - 03/31/09	Obtain OMB clearance for 2010 Census questionnaires		Submit FY 2010 budget request to the Congress *OMB Changes are reflected in the FY10 Exhibit 300*	
Q3 04/01/09- 06/30/09	Begin printing 2010 Census Questionnaires		Submit FY 2011 budget request to the DOC *(April) 1st draft of the FY11 Exhibit 300*	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2009	Planning and Testing	Acquisitions	Budget/OMB300	Architecture
Q4 07/01/09- 09/30/09	Complete precensus address list compilation activities using automated tools for the 2010 Census Complete opening all Local Census Offices for the 2010 Census Complete opening all data capture centers for the 2010 Census Test content and methodology changes for 2013 ACS		Submit FY 2011 budget request to OMB *(July) Rework of FY11 Exhibit 300* *(Sept) Final submission of the FY 11 Exhibit 300 to DOC*	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2010	Planning and Testing	Acquisitions	Budget/OMB300	Architecture
Q1 10/1/09- 12/31/09	Submit proposed topics for 2013 ACS to Congress		*OMB Changes the FY10 Appropriation prior to sending it to the President* *(Oct) Associate Director for Decennial defends the FY10 Exhibit 300*	
Q2 01/1/10 - 03/31/10	Implement 2010 Census mailing/delivery strategy Begin 2010 Census field enumeration activities Begin 2010 Census data capture and processing		Submit FY 2011 budget request to the Congress *OMB Changes are reflected in the Final FY10 Exhibit 300*	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2010	Planning and Testing	Acquisitions	Budget/OMB300	Architecture
Q3 04/01/10- 06/30/10	Census Day		Submit FY 2012 budget request to the DOC *1st Draft of the FY 12 Exhibit 300* *Rework of the FY12 Exhibit 300*	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2010	Planning and Testing	Acquisitions	Budget/OMB300	Architecture
Q4 07/01/10- 09/30/10	Complete capture of addresses and street updates from 2010 Census operations into MAF/TIGER Publish 2009 ACS results, which includes the first 5 year (2005-2009) accumulation for all geographic areas and population groups of less than 20,000 population (and every year thereafter)		Submit FY 2012 budget request to OMB *Final Submission of the FY12 Exhibit 300*	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2011	Planning and Testing	Acquisitions	Budget/OMB300	Architecture
Q1 10/1/10- 12/31/10	Deliver 2010 Census apportionment counts Submit actual questions for 2013 ACS to Congress		OMB Changes the FY 11 Appropriation prior to sending it to the President *(Oct) Associate Director for Decennial defends the FY 12 Exhibit 300*	
Q2 01/1/11 - 03/31/11			Submit FY 2012 budget request to the Congress *OMB Changes are reflected in the Final FY12 Exhibit 300*	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2011	Planning and Testing	Acquisitions	Budget/OMB300	Architecture
Q3 04/01/11- 06/30/11	Complete the delivery of 2010 Census redistricting data		Submit FY 2013 budget request to the DOC *(April) 1st Draft of the FY 13 Exhibit 300*	
Q4 07/01/11- 09/30/11			Submit FY 2013 budget request to OMB (*July) Rework of FY13 Exhibit 300* *(Sept 1) Final submission of the FY 13 Exhibit 300*	

2010 Census Milestones for Planning and Testing, Acquisitions, Budget/OMB 300 and Architecture

Note: The items in italics are not part of the 2010 Reengineered Census Milestone Schedule (3/4/03)

FY 2012	Planning and Testing	Acquisitions	Budget/OMB300	Architecture
Q1 10/1/11- 12/31/11			*OMB Changes the FY12 Appropriation prior to sending it to the President* *(Oct) Associate Director for Decennial defends the FY13 Exhibit*	
Q2 01/1/12 - 03/31/12			Submit FY 2013 budget request to the Congress	
Q3 04/01/12- 06/30/12	Complete release of 2010 Census data products			
Q4 07/01/12- 09/30/12	Complete 2010 Census research, evaluation and experimental program			

10. BUSINESS GOALS, OBJECTIVES, STRATEGIES

List of Business Goals, Objectives, and Strategies

A goal is a desired or needed result to be achieved over a specified period of time to support a mission. An objective is a measurable result (not an activity) that management has agreed to accomplish within a specific timeframe. Strategies are plans for achieving goals. The business goals, objectives, and strategies are contained in two memorandums:

2010 CENSUS PLANNING MEMORANDA SERIES No. 13, From Teresa Angueira, Chief, Decennial Management Division, Planning for the 2010 Decennial Census: Plan for the Plan", and

2010 CENSUS PLANNING MEMORANDA SERIES No. 14, From Teresa Angueira, Chief, Decennial Management Division, "Re-engineering the 2010 Decennial Census: The Baseline Design for 2010".

UNITED STATES DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. Census Bureau
Washington, DC 20233-0001

June 3, 2003

2010 CENSUS PLANNING MEMORANDA SERIES

No. 13

MEMORANDUM FOR The Distribution List

From: Teresa Angueira *[signed]*
Chief, Decennial Management Division

Subject: Planning for the 2010 Decennial Census: Plan for the Plan

Attached is the "Plan for the Plan" for the 2010 Census. This document describes important aspects of how the Census Bureau is preparing to produce a final plan for the 2010 Decennial Census—that is, it is a "Plan for the Plan." In the context of the 2010 Census re-engineering program, it provides the global goals and measurable objectives applicable to the 2010 Census components. It also suggests the current strategies and operating principles used to meet the goals and objectives. Finally, it discusses the major methods and management structures used for planning.

Over the decade, as we progress through stages of planning and preparing for the 2010 Census, we will modify our strategies and methods so they are tailored to conditions at any point in time. This document will be updated and redistributed when major or many changes occur.

Attachment

This draft document is preliminary in nature and in the early stages of development. As such, it is subject to revision. Our intent in making this working document available at this time is to inform ongoing discussions related to our efforts to plan, develop and test a reengineered design for the 2010 Census.

Planning for the 2010 Decennial Census ("Plan for the Plan")

This document describes how the Bureau of the Census will plan the 2010 Decennial Census of Population and Housing (2010 Decennial Census):

1. Section I lists the goals, objectives, strategies and principles for planning the design and conduct of the 2010 Decennial Census; and

2. Section II discusses the methods we will use for planning.

We view this document as a ***Plan for the Plan***; that is, it explains the guidance and methods we will use to define detailed features of the census and to implement them successfully. The processes described here will result in the actual 2010 Decennial Census Plan, which will be documented later in the decade.

Re-engineering the 2010 Census

Over the past several decades, it has become increasingly difficult to take the decennial census. But the Nation's demand for data is also increasing. The Census Bureau addresses these difficulties and needs in Strategic Goal 3 of its Strategic Plan:

> **Strategic Goal 3: Meet constitutional and legislative mandates by implementing a re-engineered 2010 Census that is cost-effective, provides more timely data, improves coverage, and reduces operational risk.**

Meeting this goal of re-engineering the 2010 Census has three interdependent components:

- Implementing the **American Community Survey (ACS)** to collect census long-form data on an ongoing annual basis;

- Modernizing and enhancing the Census Bureau's **Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER)** address file and geographic database (**MAF/TIGER Enhancements Program**); and

- Systematically developing, testing, and implementing a short-form-only 2010 Decennial Census design that takes advantage of the opportunities offered by the ACS and MAF/TIGER Enhancements Program (**2010 Decennial Census Planning)**.

The idea of *interdependence* among these three components is essential. They are conceptually, operationally, and systematically dependent upon each other's existence and products, in much the same way that the receiver, tape player, and CD player in a rack system share common electronics, speakers, and many controls. However, each component--of the census and of the rack system--also has its own unique features and requirements. While acknowledging and respecting the capabilities and requirements of the ACS and MAF/TIGER Enhancements Program components of the **Re-Engineering Program**, this document details planning for the **2010 Decennial Census.**

As a final reference to the interdependence and uniqueness of the components, consider the four aspects of the strategic goal; specifically, the Re-engineering Program is to produce a 2010 Census that **"Is cost-effective, provides more timely data, improves coverage, and reduces operational risk."** This statement provides goals for the entire ***Re-engineering Program*** and suggests their application to the ***2010 Decennial Census*** component as follows:

Cost effective--***Re-engineering Program***: The great value of the Re-engineered Census must be procured at reasonable cost, comparing favorably to that of repeating the Census 2000 design in 2010. In order for this to happen, each of the three components must be as cost-effective as possible. Since the ACS and MAF/TIGER Enhancements Program will cost more than their equivalent in the "repeated" design, the 2010 Decennial Census must appreciably compensate for those increases. Only early planning can enable significant savings in infrastructure, productivity, systems design, and other major cost centers. Therefore, the ***2010 Decennial Census*** has the following goal:

> ***Assuming the existence and products of the ACS and the MAF/TIGER Enhancements Program, as well as a planning effort beginning early in the decade, the 2010 Decennial Census will include major efficiencies designed to contain its cost.***

Provides more timely data-- ***Re-engineering Program:*** The ACS will supply detailed data--those previously collected using a "long-form" in the decennial census--more frequently and more timely than would be possible by repeating the Census 2000 design. In addition, ongoing enhancement of the MAF/TIGER system will provide information with greater currency than before. Overall, then, the Re-engineered Census provides more up-to-date data. However, the ***2010 Decennial Census*** will continue to release initial basic data--in particular, apportionment and redistricting counts--on the demanding schedule dictated by legal requirements. Therefore, it is inappropriate to state a goal promising increased timeliness for data from the 2010 Decennial Census; it enables cost savings, improved coverage, and risk mitigation while meeting legal requirements.

Improves coverage-- ***Re-engineering Program***: Because the ACS and MAF/TIGER Enhancements Program will provide most of the detailed information previously supplied from Census 2000, the 2010 Decennial Census will be able to focus on coverage improvement efforts; that is, the ***2010 Decennial Census*** can employ expanded and concentrated efforts and resources to meet the following goal:

> ***The 2010 Decennial Census will improve the accuracy of census data, especially the coverage of the population and housing inventory, for all***

The 2010 Decennial Census will improve the accuracy of census data, especially the coverage of the population and housing inventory, for all geographic levels and demographic groups.

Reduces operational risks-- ***Re-engineering Program:*** Both the ACS and the MAF/TIGER Enhancements Program shift requirements from the 2010 Decennial Census, so that its design can simplify census data collection and processing. Therefore, the ***2010 Decennial Census*** can achieve the following goal:

The design of the 2010 Decennial Census will reduce operational risks by simplification, consistency, testing, and streamlining within and across all its features.

The planning process described in this document is intended to ensure that the 2010 Decennial Census meets its goals, thereby contributing to the overall goals of the Re-engineering Program.

Part I. of this document provides the objectives, strategies and operating principles that underlie these goals; Part II. describes the planning methods they guide.

I. GOALS, OBJECTIVES, STRATEGIES AND OPERATING PRINCIPLES

The goals, objectives, strategies and operating principles that guide planning are described here, using the following general definitions:

Goals: Overarching, fundamental statements describing the critical achievements required from the 2010 Decennial Census. They will fulfill customer and stakeholder needs.

Objectives: Measurable outcomes related to achieving one or more goals. They are measurable end results that strategies are expected to accomplish, which in turn will ensure achievement of the goals.

Strategies: Detailed approaches for achieving objectives. They can be quantified or described, and dictate a portfolio of activities.

Operating Principles: Statements about the values, ethics, and ideas that underlie decisions and actions undertaken to accomplish goals, objectives, and strategies.

I.A. Goals

First, we reiterate the goals of the 2010 Decennial Census. The vision of a baseline census that would meet these goals is described in the document, "2010 Decennial Census Baseline Design."

GOALS OF THE 2010 DECENNIAL CENSUS
The 2010 Decennial Census will improve the accuracy of census data, especially the coverage of the population and housing inventory, for all geographic levels and demographic groups. (THE **ACCURACY** GOAL**)** **The design of the 2010 Decennial Census will reduce operational risks by simplification, consistency, testing, and streamlining within and across all its features. (**THE **RISK REDUCTION** GOAL**)** **Assuming the existence and products of the ACS and the MAF/TIGER Enhancements Program, as well as a planning effort beginning early in the decade, the 2010 Decennial Census will include major efficiencies designed to contain its cost.** (THE **COST CONTAINMENT** GOAL**)**

I.B. Objectives

Objectives state measurable outcomes related to achieving one or more goals using one or more strategies. The 2010 Decennial Census objectives, and the goals they most directly support, are presented and discussed below.

OBJECTIVES FOR THE 2010 DECENNIAL CENSUS (Goals Supported)
1. **Reduction in the differential undercount while maintaining high coverage overall. (Accuracy)** 2. **No decrease in response rate compared to the Census 2000 short form response rate. (Cost Reduction and Risk Reduction)** 3. **Improved cost-effectiveness of census operations defined through early planning and testing. (Cost Reduction, Accuracy, and Risk Reduction)**

Objective 1: Reduction in the differential undercount while maintaining high coverage overall.

This objective will be measured by quantifying the differential undercount (the difference in the rates at which population groups are missed by the census) and the overall coverage (the proportion of the population properly counted). Coverage measures resulting from scientific evaluation will be compared with the results from evaluating Census 2000. This objective most directly relates to the "accuracy" goal of the census.

Objective 2: No decrease in response rate compared to the Census 2000 short form response rate.

This objective will result from direct measurement of the rate of self-response to the 2010 Decennial Census compared to the equivalent rate for short-forms in Census 2000. The response rate is largely a function of the total number of households with self-response, so that expensive follow-up interviewing procedures are avoided. This objective most directly supports the Cost and Risk Reduction goals for the census, by minimizing the expense, and avoiding the time and complexity, of follow-up. To the extent respondents provide better data through self-response than by interview, it also may support the Accuracy goal.

Objective 3: Improved cost-effectiveness of census operations through early planning and testing.

This objective will be measured by:

A. The total cost of designing and implementing the systems and procedures needed to collect and produce 2010 Decennial Census results, measured over the complete budget cycle (Fiscal Years 2002-2012). Only by early and innovative planning, testing and methods development can the 2010 Decennial Census be redesigned to provide the major cost savings needed to fund the other two components of the Re-engineered Census, while improving the coverage accuracy at reduced risk.

B. The effectiveness of collection and processing systems and procedures in achieving the Accuracy and Risk Reduction goals of the census. Accuracy will be measured as described in the objective, " Reduction in the differential undercount while maintaining high overall coverage." Risk reduction will be measured as specified in our Risk Management and Mitigation Plan, currently under development.

This objective supports all three goals of the 2010 Decennial Census.

I.C. Strategies

Strategies are detailed approaches for achieving one or more objectives. They can be quantified or portrayed objectively, and dictate a portfolio of activities developed using the planning methods described in the second part of this paper.

A great many strategies are needed to achieve the ambitious goals defined for an undertaking as complex as the decennial census. The following table summarizes the major strategies, and links them with the **primary** objectives they are designed to achieve.

Strategies Supporting 2010 Decennial Census Objectives (Objectives Supported)
1. Start the planning and testing program in 2002 in order to integrate 2010 Decennial Census development and design with the implementation of the ACS and the MAF/TIGER Enhancements Program, and to provide for a true Dress Rehearsal in 2008. (3)
2. Identify and adhere to sound practices for research, development, planning and testing within all program areas, so that the methodology, procedures, systems, forms, procedures and the like for all census components are defined in time for implementation in the 2008 Dress Rehearsal. (1,2,3)
3. Establish an internal planning structure that utilizes wide expertise, brings issues to closure efficiently, respects the roles and responsibilities of all participants, and facilitates communication in order to obtain buy-in from all participants to the goals, objectives, and strategies of the 2010 Decennial Census. (3)
4. Develop, test and analyze potential improvements to the design of Census 2000 using information based on assessing Census 2000, especially the results of the Testing, Experimental, and Evaluation Program, to inform planning and develop opportunities for improving and streamlining data collection, capture, processing, and dissemination systems. (1,2,3)
5. Beginning with the development of a logical architecture, develop a sound physical and technical architecture that integrates with the Census Bureau's enterprise architecture, and which eliminates redundancies, ensures consistency, allows for incorporation of new methodologies and technologies, and promotes service to the user community. (3)
6. Expand the use of technology to streamline data collection, staffing, and infrastructure requirements, and improve self-response. (2,3)
7. Use special tests and research to develop plans for testing new methodologies in the 2004 Census Test, and new automated technologies to support successful methodologies as a chief objective of the FY2006 Census Test. (1,2,3)
8. For every procedure and operation, define quality requirements that can be met by the design of each component and the quality assurance methods associated with it. (1,2,3)
9. Assure that stakeholders are informed and actively engaged throughout the planning and development stage so that they are afforded ample opportunity early enough to provide input into the design of methods, materials, procedures, and systems. (2,3)

Undertaking the approaches--often multidimensional--suggested by each of these strategies will generally entail a number of activities as described here:

Strategy 1: Start the planning and testing program in 2002 in order to integrate 2010 Decennial Census development and design with the implementation of the ACS and the MAF/TIGER Enhancements Program, and to provide for a true Dress Rehearsal in 2008.

To make the substantial changes in census design that are required to meet the goals and objectives, we began planning and development in 2002. This timely start, if sustained by adequate funding, will allow us to intensively study needed improvements, and to complete iterative small- and large-scale testing to refine and integrate them. It also will allow us to use the ACS as a test vehicle; leverage testing, evaluation, and results from the ACS and the MAF/TIGER; and incorporate efficiencies and products from the ACS and MAF/TIGER Enhancements Program.

Further, this strategy specifies our commitment to conducting a true Dress Rehearsal in 2008, so that any refinements can be made before actual 2010 Decennial Census operations begin. A true Dress Rehearsal requires that we specify all design features, beginning with the earliest operations and continuing through data dissemination, by 2007. Having a true Dress Rehearsal, which is critical for meeting our goals and objectives, is an ambitious undertaking that can be accomplished only with an early start and sustained effort.

Strategy 2: Identify and adhere to sound practices for research, development, planning and testing within all program areas, so that the methodology, procedures, systems, forms, and procedures for all census components are defined in time for implementation in the 2008 Dress Rehearsal.

Every component of the 2010 Decennial Census needing change and improvement must go through a systematic cycle of research, development, planning and testing. Each phase of the cycle requires objective evaluation; re-testing and refinement often will be necessary. Because of the large number and intricate interrelationships of the components of the census, this can be best accomplished using well-defined practices that all participants and partners understand. Although the degree and duration of effort will vary by component, this strategy will allow us to completely develop the full range of program areas--for example, geographic programs, communications, response rate improvement, etc.--from initial evaluation and identification of potential solutions, through testing and retesting, and final integration of improved and efficient procedures into the whole design.

Strategy 3: **Establish an internal planning structure that utilizes wide expertise, brings issues to closure efficiently, respects the roles and responsibilities of all participants, and facilitates communication in order to obtain buy-in from all participants to the goals, objectives, and strategies of the census.**

This strategy addresses the need to define an efficient, participative planning structure, with underlying supporting processes, early in the census cycle. Such a structure facilitates collaborative efforts to meet the challenges of redesigning critical features of the census; allows effective management of the complex processes of planning and taking the census; and provides for good communication and coordination. Part II of this document discusses many of the methods and activities supporting this strategy.

Strategy 4: Develop, test and analyze potential improvements to the design of Census 2000 using information based on assessing Census 2000, especially the results of the Testing, Experimental, and Evaluation Program, to inform planning and develop opportunities for improving and streamlining data collection, capture, processing, and dissemination systems.

The Census 2000 experience is a primary resource for identifying areas of the design in need of improvement. For example, in order to design a simple questionnaire that elicits accurate responses for the "short-form only" 2010 Decennial Census, we will start by analyzing respondent reporting to the Census 2000 short form, including a comparison of responses between the Census 2000 Supplemental Survey/ACS and Census 2000. Using these results and conducting cognitive testing, focus groups, mail surveys, and field data collection, we will learn about needed improvements to the questionnaire. On this basis, we will redesign the questionnaire in all the media in which it will be available during the 2010 Census.

Based on what we learn, we will look for opportunities to streamline all aspects of the census so that they are more efficient and integrated. For example, we will incorporate Group Quarters in same files that contain regular housing units, to ensure correct classification of all living quarters and a comprehensive MAF, allowing the streamlining of field and processing controls. Another major activity is to create a participative environment for respondents by improving questionnaire availability, the number and type of response options, and outreach to provide information about these alternatives. Aspects of this are to expand the mailing strategy to include sending a second form to addresses for which no first form has been received; enhance the language program with increased support for respondents who speak languages other than English, and by mailing bi-lingual questionnaire packages (at minimum, English/Spanish) questionnaire in identified areas; increase the number and availability of response options, such as expanding our data collection capability for the Internet, MCDs, and telephone response in languages other than English; and design an effective Telephone Questionnaire Assistance (TQA) program.

Strategy 5: Beginning with the development of a logical architecture, develop a sound physical and technical architecture that integrates with the Census Bureau's enterprise architecture, and which eliminates redundancies, ensures consistency, allows for incorporation of new methodologies and technologies, and promotes service to the user community.

This strategy articulates a major tenet for meeting our goals because it provides a proven, systematic approach for deriving new census methodologies and appropriately implementing

their automation. This approach is based on the Federal Enterprise Architecture Framework (FEAF), which will ensure compliance with the Clinger-Cohen Act. This framework will facilitate the analysis of requirements, costs, data interchanges, and areas for improving efficiencies in the multitude of 2010 Decennial Census processes. We will develop an enterprise architecture that includes logical, physical, and technical architectures to support the smooth interchange of data across all computer systems at headquarters and in our decentralized regional, local, and data processing facilities. The architecture will serve as a focal point providing common data definitions for all information that makes 2010 Decennial Census data understandable. The architecture also will lead to systems that will improve communications with all 2010 Decennial Census data users by providing fast, single-source, access to the most up-to-date and accurate information. It also will promote reusability of software and a common understanding for all 2010 Decennial Census data, and reduce redundant efforts found in previous censuses.

These practices will provide a flexible census-taking system while minimizing risks associated with incorporating new methods and technologies. Among its benefits will be to allow us to integrate the Management Information System and Cost Model with each other and with sources of data; conduct integrated system-level testing; implement comprehensive requirements definition and change control processes; design for risk mitigation and contingency planning; and utilize contractors to provide expertise and address business objectives.

Strategy 6: Expand the use of technology to streamline data collection, staffing, and infrastructure requirements, and improve self-response.

We are committed to using automated technology and information effectively to improve operations and reduce resource requirements. Among the areas in which automation is expected to produce new efficiencies are automating address list update and verification activities; reducing paper map production, equipment, and staff; streamlining Nonresponse Follow-up case management processes; developing methods for using Mobile Computing Devices, including Global Positioning System technology, for address list/map updating and field data collection; facilitating electronic response options, such as the Internet or Telephone Interactive Voice Response; identifying and eliminating duplication of addresses and individuals; further automating communication at headquarters and with decentralized offices; more fully automating payroll and quality assurance procedures; and updating the American FactFinder.

Strategy 7: Use special tests and research to develop plans for testing new methodologies in the 2004 Census Test, and new automated technologies to support successful methodologies as a chief objective of the FY2006 Census Test.

Developing a special testing program to evaluate proposed new methods is an efficient way of looking at promising individual changes to the census. Once the merits of individual improvements have been established, they can be incorporated into site tests in an integrated fashion. By emphasizing methodological improvements in the 2004 Census Test, we will have the information needed to design automated systems to support them in the 2006 Census Test.

Strategy 8: For every procedure and operation, define quality requirements that can be met by the design of each component and the quality assurance methods associated with it.

To uphold the quality standards by which Census Bureau products are known, and particularly to ensure the integrity and accuracy of 2010 Decennial Census data, we need to understand the impact of each procedure and method, and associated materials, on the final product. This strategy commits us to analyzing factors that affect the accuracy of all procedures and methods, and to design them and appropriate quality assurance procedures so that they produce high quality results.

Strategy 9: Assure that stakeholders are informed and actively engaged throughout the planning and development stage so that they are afforded ample opportunity early enough to provide input into the design of methods, materials, and the like.

Our partnerships with stakeholders commit us to assure not only their involvement; it further requires us to solicit their participation on a schedule that allows full consideration and, as appropriate, development of their ideas. This strategy enforces the discipline of early involvement and clear communication.

I.D. Operating Principles

The 2010 Decennial Census operating principles reflect the ethics, values, and ideals that guide our work. The following principles underlie the planning and conduct of the census and guide choices made to accomplish all goals, objectives, strategies, and activities:

OPERATING PRINCIPLES FOR THE 2010 DECENNIAL CENSUS
Be vigilant in integrating 2010 Decennial Census Planning with the activities of the ACS and the MAF/TIGER Enhancements Program
Reflect our commitment to quality in all design aspects
Strive for integration, efficiency, and consistency
Be responsive to stakeholder and customer advice and needs
Honor privacy and confidentiality

Be vigilant in integrating 2010 Decennial Census Planning with the activities of the ACS and the MAF/TIGER Enhancements Program--We will explore all opportunities for developmental, operational, definitional, and conceptual consistency and collaboration with ACS and MAF/TIGER Enhancements Program in order to best serve the needs of our customers and stakeholders.

Reflect our commitment to quality in all design aspects--To ensure the value of our data, we will consider all aspects of quality--accuracy, timeliness, relevance, and accessibility--in defining methods and procedures for collecting, processing, and disseminating the products of the 2010 Decennial Census.

Strive for integration, efficiency, and consistency--We will use sound management and design practices to integrate hardware, software, materials, and procedures into an efficient and consistent design. Participating staff will collaborate through working groups, teams, and the like to assure sound communication and an integrated process, adhering to practices such as ensuring definitional consistency between the ACS and decennial census data; adopting a standard, structured approach to planning; migrating toward an open systems environment; and making decisions based on scientifically collected and analyzed information.

Be responsive to stakeholder and customer advice and needs--Because we are dependent on and serve a full range of stakeholders and data users, we will continue to foster close relationships and regular communication with them. By involving them throughout the planning process, we will enrich our knowledge base and support base; make better decisions; and assure that information products and services are aligned with their needs.

Honor privacy and confidentiality--The Census Bureau is required by law to protect respondent confidentiality, and is ethically obligated to respect respondents' privacy concerns to the maximum extent possible. In designing the 2010 Decennial Census, we will only collect personal, sensitive information that is necessary for meeting the Census Bureau's mission and legal requirements; inform participants about the purpose and planned statistical uses of the information collected; respect respondents' rights as participants; and ensure that confidentiality protections are included in its systems and procedures to collect, process, and release data.

II. 2010 DECENNIAL CENSUS PLANNING METHODS

This section describes the planning methods being used to design a 2010 Decennial Census guided by the preceding goals, objectives, strategies, and operating principles. It also describes the working structures under which participants function, using common processes to meet well-understood, collective goals. Together, these methods and structures provide ways to effectively organize and conduct the myriad activities that will result in a comprehensive plan for the 2010 Decennial Census.

II.A. Review of the Census 2000 Experience--Understanding the successes and deficiencies of the previous census is an important basis for improving the subsequent one. Reviewing and analyzing the effectiveness, costs, and results of census design components--along with information about demographic trends, methodological advances, and technological opportunities--is critical to informed planning. This information also suggests ways to improve the planning process itself. There are several major ways we are bringing the Census 2000 experience to bear on early planning for the 2010 Decennial Census:

1. **The Census 2000 Testing, Experimental, and Evaluation (TXE) Program--**Each modern census has incorporated a formal research program to provide information about its conduct and quality. One important purpose of this program is to inform data users and stakeholders about data quality and limitations, costs, and other results of interest. The second purpose is to provide a body of objective information, collected under census conditions, to inform planning for the next census. Census 2000 incorporated an extensive Testing, Experimental, and Evaluation Program that is providing critical direction to early planning, and that is benefiting the design and conduct of the ACS and the MAF/TIGER Enhancements Program as well.

   The Census 2000 Evaluation Program is providing measures of the effectiveness, cost, and impact on data quality of the Census 2000 design, operations, systems, and processes. Well over 100 studies, covering a vast array of program activities, comprise the program. Their results will help identify opportunities for streamlining operations, strengthening enumeration methods, and allocating resources. Such opportunities become the basis for developmental and testing plans throughout the decade.

   The Testing and Experimental Program is providing information gained by using Census 2000 as a "test bed" for small tests and experiments with new and different methods. Since this program was conducted during the census, it provides insights about how alternative methods might work in a census environment. Its results help to determine the potential efficacy of changes in the census design, which can be developed further throughout the decade.

2. **The Assessment Process--**To supplement and expand upon the formal TXE program, we compiled a body of quantitative, qualitative, and experiential information in a number of areas comprising the entire program. Bringing together all of this information, the Assessment Process casts a wide net to gather a comprehensive body of information on a wide variety of topics. It used a far-reaching, participative process to identify both successes and lessons learned (areas for improvement). The Assessment Process afforded us the opportunity to gather expertise across all organizational units involved in Census 2000, so that there would be many perspectives brought to bear on supplying and interpreting data. It also helped develop relationships that form the basis for teams involved in early planning of the 2010 Decennial Census.

3. **Advisor, Stakeholder, and Customer Input--**We gain much important information for planning from advisory groups, stakeholders, and customers. For example, we solicited qualitative and experiential information about Census 2000, as well as suggestions for early planning topics, from all formally established census advisory committees. Feedback from data users becomes the basis for improving current dissemination systems and designing future ones. Initial information from external groups and partners has been channeled into the Assessment Process, and the analyses of their suggestions will be integral to the entire planning process.

Information from all these sources becomes available at different rates for different program

areas. Because of this, and respecting priorities for the use of staff, budget, and other resources, the planning cycle of assessment, research, development, testing and re-testing is somewhat different across program areas.

II.B. STRUCTURE FOR PLANNING--Many divisions and offices within the Census Bureau participate in planning a decennial census. In addition to the Decennial Census Directorate, whose staff works largely on the census, expertise throughout the organization is needed for the success of the census. Information for each aspect of planning, including research, development, and testing, must be gathered and shared among many groups and participants. In order to efficiently manage these collaborative efforts, we have established a structure and processes to assure progress towards meeting all the global goals and objectives, using appropriate strategies applied to each program area.

At the highest levels of the Census Bureau, the Executive Staff, relying heavily on the Associate Director for Decennial Census, directs all activities needed to plan and take the decennial census. A key element of this direction is to assure coordination among the three components of the Re-engineered Census. Directions are carried out by staff of many organizational units working within the structure of committees, teams, and working groups described here.

The exact number and configuration of planning groups changes over time, depending on the stage of planning of each program area, census test or dress rehearsal, and the census itself. As the structure evolves, groups are formed or disbanded as appropriate, with the expertise of their members shifted to current activities. For early census planning, we have established the following key groups:

The 2010 Census Division Chiefs Forum builds a collaborative environment for planning through open exchange and vetting of ideas. Using information about 2010 Decennial Censusplanning policies, priorities, and activities, they work to determine high-level requirements and methods, and advise on matters guiding the planning process.

The 2010 Decennial Census Managers, composed of Assistant Division Chiefs and other key staff of many participating divisions and offices, collaborate to assure a common understanding of the 2010 Decennial Census planning context, policies, and priorities. They provide cross-divisional perspectives in determining or recommending research, investigative, consultative, developmental, and testing activities, and they are responsible for communicating information to, from, and within their divisions. Given the breadth of its expertise and the criticality of its responsibilities, the Census Managers group at times takes on additional functions, such as serving as the Change Control Board for user requirements for the 2004 Census Test.

2010 Decennial Census Research and Development Planning Groups address new and improved census taking methods, technology applications, and the like for broad program areas. They are a principal vehicle for surfacing alternatives and determining ways to develop them, considering factors such as feasibility, respondent acceptability, and data quality. These groups provide information, specify preliminary testing, determine requirements, and recommend appropriate activities to evaluate the use of the method(s) in the site tests, including obtaining appropriate information for cost estimation. Much of the work of the eleven Research and

Development Planning Groups is performed by **2010 Decennial Census Research and Development Planning Subgroups**, where expertise from many organizational units is brought to bear on specific subtopics within the program area.

2004 Census Test Implementation Teams are charged with crafting plans for all major activities in the site test. Based on guidance and results from the Research and Development Planning Teams and other appropriate sources, they develop project plans, user requirements, specifications, and software systems and procedures for implementing the aspects of the test within their areas of expertise.

The DMD Integration Team, consisting of senior division staff involved in all planning and implementation teams, examines products from all teams to assure they are coordinated, complementary, and appropriately designed to meet goals and objectives.

A number of other teams are established to address other long-term, cross-cutting or one-time issues. For instance, the **Logical Architecture Team** and its **Steering Committee** and **Support Team** have been established to baseline and, subsequently, develop the logical architecture to be used in the census. Special activities will often need ad hoc teams and groups. The key is to assure they function with the same strategies, towards common goals and objectives, as the standing and long-term groups.

II.C. METHODS AND TOOLS FOR PLANNING--One of the lessons learned from Census 2000, particularly applicable in the environment of developing an entirely Re-engineered 2010 Census, is the need to have better, earlier, and more systematic approaches to staff development and group processes. Other lessons suggested improvements to the tools used for planning--and later, implementing and monitoring--the full range of census operations. We have energetically instituted specific practices and plans to address these issues.

One important initiative to address staff development is to provide staff involved in managing one or more aspects of the decennial census with formal project management training. This training expands their skills and introduces new, commonly understood approaches to management, documentation and communication, project planning processes, cost estimation, and the like. Another major development is the commitment to a structured process for developing an enterprise architecture involving all customers, users, and technical experts. Because this process establishes a common language and structure for communication and documentation, it is expected to result in automated systems that are sound technically and meet the needs of all participants.

Updating and redesigning many management tools that worked adequately in Census 2000, so that they better serve both the planning and conduct of a newly designed 2010 Decennial Census, provide opportunity for many improvements. We will redesign our Management Information System to produce more timely and useful data; expand the capabilities and sophistication of the Cost Model used to support budget submissions and analysis of operational alternatives; and extend the scope of the automated document storage and retrieval systems instituted late last decade. Many of these efforts will be supported by increased usage of the Intranet and Internet.

II.D. MILESTONES--One of the first steps in the 2010 Decennial Census planning process was to develop high-level milestones for major accomplishments, so that all planning activities, including budget formulation, could be structured to meet them. The current set of milestones is provided as an appendix. Note that the milestones are subject to change depending on resource availability and the timing of planning cycle targets within each program area. Also, these milestones form the basis for developing more detailed supporting schedules; this activity iterates with these high-level milestones and may cause some of them to change.

Individual milestones generally have one of more of the following attributes:

1. They describe major legal deadlines.

2. To the extent possible, decision dates allow us to assure that choices are based on sufficient objective information.

3. To the extent possible, they allow form to follow function–that is, they require us to define methodology before final systems design.

4. Completion dates refer to final actions for a large program area or activity. Many specific decisions or actions must occur even earlier.

We used the following set of assumptions and principles to define these high-level milestones:

1. There will be site tests in 2004 and 2006 and a true Dress Rehearsal in 2008.

2. To supplement, inform, and complement the site census tests, we will undertake activities to investigate new or improved census features that do not need to be tested in a site test, and/or that need to be evaluated prior to use in a site test. Beginning in 2002, these activities include special tests or research activities, contracts to aid us in exploring various automation and related options, and support for key staff to perform planning, research, management, and integration.

3. The 2004 Census Test will be used *chiefly* to determine major methodological and procedural design elements for the Dress Rehearsal/2010 Decennial Census.

4. The 2006 Census Test will be used *chiefly* to test and prove in the infrastructure (field and automated systems) needed to support the major design components and their requirements.

5. The Dress Rehearsal in 2008 will be built on the results of these two major tests and all related research, testing, planning and other activities available in time for incorporation.

In addition to providing key dates for planning and conducting the 2010 Decennial Census, these milestones coordinate with key dates in the ACS and MAF/TIGER Enhancements Program

components. In particular, the redesigned 2010 Decennial Census milestones are dependent upon:

1. The 5-year accumulation cycle of ACS estimates that begins in 2008 to produce "long-form" type estimates; and

2. The MAF/TIGER Enhancements Program meeting requirements for addresses and geographic data, with an early identification of activities needed to meet address list updating and geographic requirements that will be implemented specifically for the 2010 Decennial Census.

Although these milestones document when each particular activity will be completely defined or when the activity must occur, their relationship to the budget cycle is important. Budget estimates for any particular fiscal year are initially formulated at least 18 months prior to the beginning of that fiscal year. Therefore, an activity that occurs in the fourth quarter of a fiscal year is accounted for in the budget formulated 30 months prior to that.

II.E. PUERTO RICO, THE ISLAND AREAS, AND AMERICANS OVERSEAS--This section will describe unique aspects of planning in these program areas. While the overall methods and structures for 2010 Decennial Census planning apply to them, they have some unique attributes that should be described and acknowledged.

III. SUMMARY

This document has described important aspects of how the Census Bureau is preparing to produce a final plan for the 2010 Decennial Census--that is, it is a "Plan for the Plan." After describing the role of early planning for the 2010 Decennial Census in the context of the entire Re-engineering Program, it provides the global goals and measurable objectives applicable to the 2010 Decennial Census component. It then suggests the current strategies and operating principles we use to meet the goals and objectives. Finally, it discusses the major methods and management structures used for planning.

Over the decade, as we progress through stages of planning and preparing for the 2010 Decennial Census, we will modify our strategies and methods so they are tailored to conditions at any point in time. Some of these modifications will be documented internally; when there are major or many changes, this documented will be updated accordingly.

UNITED STATES DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. Census Bureau
Washington, DC 20233-0001

June 3, 2003

2010 CENSUS PLANNING MEMORANDA SERIES

No. 14

MEMORANDUM FOR The Distribution List

From: Teresa Angueira *[signed]*
Chief, Decennial Management Division

Subject: Re-engineering the 2010 Decennial Census: The Baseline Design for 2010

Attached is the Baseline Design for the 2010 Census. This document outlines the key components and functional capabilities that we envision to be used to conduct the 2010 Census. The design represents a fundamental shift in our business processes and is contingent upon three critical components: (1) adequate resources for early planning, development and testing of new procedures, methodologies, and testing; (2) conducting tests and improving the design based on what we learn; and (3) the full implementation of the American Community Survey and the MAF/TIGER Enhancements Program.

The design outlined in this document will mature and evolve as we learn from our planning, testing, and development activities. Once finalized, we will implement the design in the 2010 Census to increase the relevance and timeliness of census long-form data, to reduce operational risks, to improve census coverage, and to contain costs. This document will be updated and redistributed when major or many changes occur.

Attachment

This draft document is preliminary in nature and in the early stages of development. As such, it is subject to revision. Our intent in making this working document available at this time is to inform ongoing discussions related to our efforts to plan, develop and test a reengineered design for the 2010 Census.

Reengineering the Decennial Census

The Baseline Design for 2010

Decennial Management Division

Version 1.5 – May 2003

Introduction

This document describes a baseline design for the 2010 Decennial Census outlining the key components and functional capabilities that we envision will be in place, and used to conduct, that census. In some places, our discussion is very specific. In others it is more general. This reflects our current knowledge of what we can achieve as a result of our efforts to reengineer the decennial census.

This baseline design incorporates fundamental successes and lessons learned from Census 2000, and assumptions about 2010 are consistent with Census 2000 except where specifically noted. It is important to stress that our work is ongoing, and that this design will evolve as we learn more about the innovations we are exploring. That is, over the next four years, the *baseline* design will be modified as we blend what we learned from Census 2000 with the results of our efforts to research, test, and develop operations, technologies, and systems for 2010. A *mature* design must be in place by 2007 in order to plan and conduct a true Dress Rehearsal in 2008, which in turn will yield a *final, proven* design for the 2010 Census.

The need for and justification of a re-engineered decennial census program have been documented in some detail elsewhere, so details are not repeated here. For the same reason, this document does not repeat detailed descriptions available elsewhere of the overall goals we are using to guide the re-engineering effort:

1. Increase the relevance and timeliness of census long-form data.
2. Reduce operational risk.
3. Improve the coverage accuracy of the census.
4. Contain costs.

To meet these goals, we have embarked upon three highly integrated initiatives:

The American Community Survey – An on-going household survey designed to collect and tabulate census long-form data every year throughout the decade. Besides more timely data, the existence of the ACS eliminates the need to collect long-form data in 2010, so that the 2010 Census can focus on short-form data collection and coverage.

The MAF/TIGER Enhancements Program – A multi-year effort to enhance and improve our existing Master Address File (MAF) and geographic information system (known as TIGER) by bringing them into alignment with true global positioning system (GPS) coordinates, and converting the TIGER data base to a commercial off-the-shelf database environment. Besides improvements to our nation's geographic information infrastructure, the completion of the program will enable the 2010 census to use GPS-equipped, hand-held computing devices for data collection.

2010 Planning, Testing, and Development – An integrated, multi-year program that will allow us to completely restructure the management and conduct of a short-form only census in 2010. It will use new methods and technologies that build on the ACS and MAF/TIGER enhancements,

and implement a series of large mail out and field tests, as well as special purpose tests, all timed to enable us to conduct a true dress rehearsal in 2008.

Baseline Design for 2010 Decennial Census

- We will use GPS-equipped mobile computing devices (MCD) that will enable enumerators to locate and update address information for housing units, conduct interviews, transmit the data directly to headquarters for processing, and receive regularly updated field assignments.

- Through the use of automation and MCDs, we will significantly reduce the amount of paper used in the field (including questionnaires, address registers, maps, assignment sheets, and payroll forms) and the large number of staff and amount of office space required to handle that paper.

- People responding to the census will have more options available to them. Many households will be mailed bi-lingual questionnaire packages (at minimum, English/Spanish), and there will be more support for census respondents that speak languages other than English.

- Expanded use of Internet and telephone systems (using Interactive Voice Response) will provide new opportunities for using technology to make it easier for people to complete their questionnaire.

- With a short form only census, we will increase response rates by taking advantage of the historically higher response rates for short forms, through the development of communications strategies that employ the optimal mix of contacts with the public to enhance our outreach efforts, and by mailing a second form to people who have not returned their census.

- When address list updating gets underway in 2009, census geographers and field staff will be working with an address list unprecedented in its accuracy and completeness. As part of the MAF/TIGER Enhancements Project, the Local Update of Census Address program (LUCA) will have been streamlined and improved based on lessons learned from the Census 2000 LUCA experience, and the address list for the entire universe will have been maintained and updated on a continuing basis. We will be able to reduce pre-census address list updating operations because the address list has been maintained for all areas throughout the decade. There will be an address updating operation in 2009 in areas that we believe have experienced significant changes.

- The streamlined, ongoing LUCA program will culminate with a final opportunity for local governments to review their address lists, which will occur prior to address canvassing. We will then validate any LUCA adds during address canvassing. We will have a New Construction operation, and will attempt to include these addresses in questionnaire delivery. The New Construction adds will be validated during a later operation. We will

not conduct a post-census local review operation but will continue examining the options for providing communities with one last chance to improve completeness of the census address list.

- Field staff conducting this address canvassing will use MCDs to obtain their assignments, update maps, navigate to assignment areas, and record the data they collect. These same devices will later be used for nonresponse follow-up, improving the accuracy and efficiencies of this critical and expensive operation. Data capture will be streamlined through the electronic transfer of address information directly into headquarters processing systems. Field staff will be using GPS equipped devices that assist with navigation and reduce the time needed to complete their assignments.

- Other processing operations will ensure the integrity of the address list and our geographic database. We will work with USPS, local, and tribal partners to obtain current address information and to ensure enumeration of those addresses. Whenever we identify new housing units or those that no longer exist, we will update our files. Processing these changes is a continuing operation to update our address list and our geographic database.

- We will not need to conduct an additional operation to deliver questionnaires to housing with addresses deemed "undeliverable" by the USPS due to our much improved address list.

- Dramatic reductions in paper based data processing will result in the establishment of at most three data capture centers, instead of the four sites in place during Census 2000, and they are likely to be reduced in size. In addition, we expect to be able to reduce the clerical and administrative LCO staff costs by as much as fifty percent. The LCO's will be significantly smaller, and there will be a significant reduction or possible elimination in the equipment needed for map production and address registers.

- Improved response rates and the elimination of the long form from the decennial census will reduce the NRFU workload and hold down the total number of LCOs that we will have to establish.

- Questions on race and ethnicity on the 2010 Census questionnaire will be structured to produce accurate and complete data concerning race and Hispanic origin, and we will determine the optimal use of wording and the appropriate inclusion of examples and instructions such that respondents will clearly understand the intent of the question, and the way they are supposed to answer it. In addition, all questions will have been adapted to ensure that they elicit comparable data across all response modes, including paper, the Internet, telephone and direct interviews in the field. The Census Bureau also will improve the census questionnaire to ensure that persons with multiple residences provide accurate data concerning where they and their dependents should be enumerated. And ongoing work on forms design, messages, layout and instructions will result in a form that is simple and easy to understand.

- Fundamental to the vision of the 2010 census is expanding the ways people can be counted. Following a widespread awareness campaign, households will receive an advance letter in the mail before April 1, 2010. The letter will tell them about the census and the ways they can participate, using English or other language methods. Shortly thereafter, they will receive a census questionnaire in the mail. A reminder postcard will follow the questionnaire mailing, and, finally, those households that have not yet responded will be sent a second questionnaire.

  In the 2010 Census we also will use technology to build on this strategy by combining these mailings with Internet and telephone contacts. These technologies will provide respondents with additional options for receiving and submitting their census questionnaires. Our expectation is that we can increase the response rate even further by developing and implementing the optimal mix of contacts and response options. By taking advantage of the Internet and the telephone we can significantly increase the number of forms that move directly into data capture without needing to be scanned in a data capture center.

  In selected areas, the questionnaire package will be bilingual in English and Spanish (at least—other combinations will be used if possible). In addition, there will be in-language questionnaires (for multiple languages) available upon request.

  As part of a "Be Counted" or "Were You Counted?" effort, we will provide opportunities to be counted to those people who, for whatever reason, believe they had not been counted.

- While the U.S. Postal Service (USPS) will deliver census information and questionnaires in most of the country, census workers will distribute questionnaires and update address lists as part of an update/leave procedure in some areas. Again, census workers will collect data electronically using GPS-equipped mobile computing devices (MCDs) with electronic maps, location descriptions, and other information about their assignments.

- Frame development activities for Special Places and Group Quarters will begin with updating the Census 2000 inventory. An integrated approach to update housing units along with GQs will be implemented to reduce duplication and ensure complete coverage of all addresses. Specially trained enumerators will utilize MCDs where appropriate and implement a variety of refined procedures to obtain accurate counts and appropriate characteristics. These procedures will also ensure the correct classification, geographic location, and unique identification of these places.

- Various special procedures will be used in areas where extra effort to complete the enumeration is needed, or for individuals with special living situations. For instance, procedures will be tailored to conduct the best possible enumeration of Remote Alaska, American Indian and Alaska Native areas, and Hawaiian homelands, Colonias, migrant workers, and persons without conventional housing.

- A strong marketing campaign, including paid advertising, and a network of partnerships with community organizations; state, local, and tribal governments; and others will inform, remind, encourage and facilitate participation in the census.

- Despite all efforts to encourage everyone to provide information, we project that we will not obtain mail, Internet or telephone IVR responses from as many as 31% of the addresses to which we deliver a questionnaire. Many of these addresses will be vacant or nonexistent, but many will be occupied. Therefore, we must still conduct a nonresponse follow-up operation.

- We will attempt some nonresponse follow-up by telephone, but most often field staff will make personal visits using MCDs. MCDs will provide enumerators with their cases and assignment areas, along with geographic information from the MAF/TIGER system that will allow them to travel to and within their assignment areas efficiently, reducing time and mileage. Enumerators also will have GPS data and electronic maps on their MCDs. They will conduct interviews and record the information electronically and transmit data and administrative information on a daily basis, so that the information is quickly available both to the headquarters processing systems and to the daily payroll and progress reporting systems. They also will receive updated assignments and instructions on the same daily basis.

- Updated assignments also will reflect late mail returns on a daily basis, thereby significantly reducing the number of interviews conducted at housing units who had responded to the census after we had prepared the NRFU assignments.

- Even after nonresponse follow-up, there will be people missing from the census enumeration, and others counted more than once, so we will carry out additional operations to further improve coverage accuracy. During the Coverage Improvement Follow-up Operation (CIFU) Census workers will visit housing units previously designated as vacant or nonexistent, but not confirmed by a second source. We will call or visit addresses for which we have no or insufficient data for any of a number of reasons, or which we believe were constructed too late to receive census questionnaires and information. We will implement new procedures for identifying households and persons that have been counted more than once. A national unduplication system will be implemented through the application of record linkage theory to extremely large data sets, and a real-time unduplication operation will be in place to flag potential duplicate records as the data are collected.

- As the data supplied by respondents are captured, they will be immediately processed to assure their accuracy and completeness. For example, automated systems will check each questionnaire to determine if there is any indication that one or more persons may be missing. Whenever there is such an indication, we will follow up to add people as appropriate. Other checks will determine how complete the data are for each person. Responses that require automated coding will be coded on a flow basis as they are received. When we receive multiple responses from any particular address, we will compare (match) these responses to each other and to other addresses to make sure that missing people are included and that they are not counted more than once.

- Subsequent to the completion of data capture and processing we will fully evaluate the accuracy of the coverage we achieve. We will use these results to estimate the number and characteristics of people and units we missed, counted more than once, or counted in the wrong location. However, we do not plan on developing a procedure for adjusting the 2010 Census data for reapportionment or redistricting purposes.

- We will conduct a short-form census of Puerto Rico incorporating appropriate methodologies developed for stateside operations. The ACS will also be conducted in Puerto Rico.

- We will conduct a census of Island Areas that includes a long form and incorporates appropriate developed for stateside operations.

- We will conduct a census of Americans living overseas depending on the results of development and testing activities now underway.

- We will conduct a Count Review program in conjunction with representatives from the Federal-State Cooperative Program for Population Estimates (FSCPE) to identify local problems in the data, making corrections where possible.

- Once the final population counts have been processed, we are ready to provide the data. The first data produced from the census are the state totals to be provided to the President by December 31, 2010. These counts are used to reapportion the seats in the U.S. House of Representatives. Between that date and April 1, 2011, we will provide tabulations to each state so that they can redraw congressional, state, and local legislative districts. The boundaries of areas for which redistricting data are supplied will have been identified through partnerships with state officials, an effort that begins several years before Census Day.

- Most of the data from the census will be tabulated and then disseminated electronically using the latest version of the American FactFinder. We will provide a full range of maps and other geographic products in hard copy and digital form as we have for Census 2000.

- We will plan and implement evaluation projects to assess, evaluate, and analyze results from the 2010 Census that will be similar to the evaluation program implemented in Census 2000 in scope, size and design.

- We will meet archiving requirements using microfilm images.

- We will conduct a Count Question Resolution program for local governments.

Conclusion

This is our vision for an improved decennial census in 2010 that represents a fundamental shift in our business processes. The realization of this vision is contingent upon three crucial developments:

1) Adequate resources for early planning, development and testing of new procedures, methodologies and systems;

2) Conducting our testing activities and improving our design based on what we learn; and,

3) The full implementation of the American Community Survey and the MAF/Tiger Enhancements Program.

The design outlined in this document will mature as we learn from our planning, testing and development activities. Once finalized, the design will move beyond the procedures, systems and methodologies we used in Census 2000 to implement a reengineered decennial census in 2010 that increases the relevance and timeliness of census long-form data, reduces operational risk, increases the coverage accuracy of the census, and contains cost.

11. LIST OF PRINCIPLES

List of Principles

A principle is a statement that supports strategic direction, guides decisions, serves as a tie-breaker in settling disputes, and provides a basis for dispersed, but integrated, decision making. The list of principles for the development of the 2010 Census Architecture are also in the Roadmap document:

Principle 1. Value Creative and Innovative Thinking
Principle 2. Establish process responsibility, accountability, and authority
Principle 3. Standardize and combine similar processes
Principle 4. Capture Information at the Source
Principle 5. Conform to the Federal Enterprise Architecture Framework (FEAF)
Principle 6. Support Quality Assurance and Quality Control
Principle 7. Support Security and Privacy in the EA

The 2010 Census Architecture principles align with the following 2010 Census Strategic Goals: Align with 2010 Business Requirements, Enable Re-Engineering, and Support Planning for the 2010 Census.

12. LIST OF CRITICAL BUSINESS CONCERNS

List of Critical Business Concerns

A Critical Business Concern is a business problem or issue on which the business unit is solution-focused. The business concerns are maintained as Environmental Drivers in the Census Enterprise Architecture. The original source is the Census Bureau's 2002-07 Strategic Plan.

Environmental Driver Names	Description
Cultural Diversity	Racial and ethnic minorities are becoming a proportionately larger component of the population. In 2000, slightly more than one of ten people in the United States was foreign born. This growing cultural diversity will continue to bring new challenges to how the Census Bureau conducts its work. It will affect the methods the Census Bureau uses to collect information, the questions asked, and the presentation of the data. Traditional surveys may require more materials in languages other than English and different approaches to reaching out to different communities. Increased immigration and emigration will raise issues about whom to include in the census (or exclude from it) and how to do it.
Data Stewardship	Data stewardship involves establishing policies that preserve privacy and confidentiality, reduce reporting burden and maximize data use. As technology provides us with greater abilities to collect, process, and disseminate data, it also presents greater challenges to protect data from improper access and use. Data, publicly available through the Internet, and record linkage technologies have the potential to permit some to defeat our data protection safeguards. What was considered a very low risk just a few years ago may soon become an unacceptable risk.
Diverse Customer Needs	Census Bureau has improved access by making data available through the Internet and through data dissemination networks, such as the State Data Centers, Census Information Centers, and Research Data Centers. The Census Bureau has a varied and diverse customer base that ranges from the most sophisticated analyst to the inexperienced one-time user. Recent technological advances allow the Census Bureau to make more data available more quickly to more users. There are challenges associated with creating a data dissemination tool that meets everyone's needs. A system that frustrates some customers will be seen as a failure even if it effectively serves the needs of most.

Environmental Driver Names	Description
	With technological advances, the tension between providing access to data and protecting confidentiality is growing. The Census Bureau must continue to explore options that achieve both. For example, the Research Data Centers may become more important as a way to give access without compromising confidentiality.
Impact of Terrorism	The events of September 11 and afterwards could have long-term consequences for the Census Bureau ranging from changes in attitudes toward the government and in concerns about privacy and confidentiality issues, to restrictions on immigration that could affect the increasing diversity of our nation. Certainly, there will be budgetary challenges as the government must support a war and other activities to deal with the terrorist threat. Additional requirements for data and for enhanced information technology and physical security also could affect programs. Before September 11, the Census Bureau was focused on meeting the information needs of a population that was skeptical of the federal government, had strong concerns about privacy and confidentiality, and was more diverse than this nation had ever been. Post-September 11, there may be changes in these attitudes, especially as they relate to national security issues. Further, the experience of anthrax delivered through a vehicle trusted by all, the mail, could put mail-dependent data collection methods at risk.
Legal Challenges	Decisions in court cases could affect decennial programs and the public's attitudes about the Census Bureau.
Other Government Agencies	The relationships of the Census Bureau with other government agencies also may present challenges. Agencies that sponsor data collection or other activities may need to accommodate declining resources. Agencies with which the Census Bureau cooperates may need to change policies or priorities. It may be difficult to anticipate such secondary effects in time to deal with them effectively.
Perceptions of the Role of Government in Society	The United States has gone through several peak and valley periods in how its residents have viewed the role of government. Prior to September 11, some political scientists and students of public administration anticipated a period in which people expected a somewhat reduced role for the federal government - just as the United States went through such a period in the late 1800's up until the depression. Since September 11, there seems to be greater

Environmental Driver Names	Description
	confidence in government and the expectation that government will play a stronger role, particularly in areas even remotely related to homeland security. The Census Bureau will need to monitor these trends closely and analyze their potential impact.
Privacy	Privacy is a complex issue and involves components of intrusiveness and confidentiality. In the Internet era, the public has grown wary of private sector use (and misuse) of personal information collected for one reason and used for a different reason without their knowledge or consent. Identity theft using Social Security numbers has made many wary about providing personal information. Concerns over the intrusiveness of the census long form in 2000 threatened the success of the census and resulted in support from high-ranking officials to those who did not wish to respond to questions they considered sensitive.
Technological Influences	The rapidly changing information technology environment, including changes in hardware, software, applications, Internet use, and uses within the user community, influences how the Census Bureau collects, processes, and disseminates data and information. The Census Bureau depends on congressional funding for initiatives to support technology innovations. While the Congress controls funding, they also impose mandates, such as accessibility requirements, that add to the cost of implementing new technology. The Census Bureau also needs to obtain/retain qualified staff and continue to train them to remain competitive within this environment. Expanding technological capabilities will drive increased customer/user expectations for ease of access, quick turnaround times, simple interface mechanisms, and comparability between different sources of data. Customers also want enhanced quality of products and services, including more functionality in data collection instruments as the Census Bureau migrates to e-commerce and computer-assisted technologies. As the value of e-commerce expands, the need for business, respondent, and customer confidence in the reliability, security, and integrity of e-commerce collection and transactions will increase.
The Economy and the Federal Budget	The economy and policies to address economic issues are likely to challenge the ability to initiate new programs, and even to conduct current activities. The Census Bureau may

Environmental Driver Names	Description
	face declining resources - of staff, money, and facilities. It may be increasingly difficult to justify needed spending, and the Census Bureau may finds itself burdened by unfunded mandates in order to satisfy the data needs of legislative and executive customers.
Workforce Management	According to the President's Management Agenda, about 70 percent of the government's permanent employees will be eligible to retire by 2010, and 40 percent of those are expected to retire. With a significant percentage of its workforce becoming eligible for retirement in the very near future, the Census Bureau must recruit, develop, and retain the next generation of employees. This will require planning to ensure that specialized technical, managerial, and subject-matter knowledge, as well as the Census Bureau's corporate culture, values, and institutional knowledge, are transferred.
Workplace Conditions	Workplace conditions will be critical issues in the next few years. Deteriorating headquarters buildings make it hard to recruit and retain staff. Fortunately, new buildings are on the way, but the construction and the time required to complete the new buildings may hamper our work. Telecommuting will become a more common practice - whether from home or from remote offices. The Census Bureau needs to address two issues to take full advantage of telecommuting: a full range of electronic communications and confidentiality reinforcements. Electronic communications need to permit the sharing of information and the capacity to transfer work projects back and forth. The Census Bureau must be able to continue to maintain confidentiality, both in fact and in perception, when it permits employees to work at home. Increased costs as well as concerns about information technology security may complicate this task.

13. LIST OF RISKS

List of Risks

This is a list of major risks faced by the business. The document, "2010 Census Risk Management Plan," prepared by Decennial Management Division, completes this product.

USCENSUSBUREAU

Helping You Make Informed Decisions

2010 Census

Risk Management Plan

Release 2.5

Prepared By

Decennial Management Division

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2010 Census Risk Management Plan

Document Location

Decennial Management Division (DMD) retains the source of this document on the DMD shared server, in the Risk Management Database. The baseline of this document is stored in the 2010 Census Planning documentation repository.

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ADDRESS DATE ISSUE

Approvals

This document requires the following approvals:

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Distribution

This document has been distributed to

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TABLE OF CONTENTS

1 INTRODUCTION

This Risk Management Plan addresses the risks in developing the 2010 Census design, including key systems design and integration, with special emphasis on IT (information technology) systems and the planning, development, test and evaluation projects. Risk management plans are key to the integration and successful implementation of the Reengineered Census of Population and Housing.

The 2010 Census Planning Program is a 10-year strategic initiative to rethink, reevaluate, and reengineer the various processes and information systems that support and provide services to the decennial census. The goals of the 2010 Census and the underlying critical success factors to achieve those goals are covered in Section 1.1 and 1.2 of this plan.

This project contains an integrated set of tasks oriented towards the development of an overarching plan and IT architecture that will enable the Census Bureau to conduct a decennial census in 2010 that mitigates risk, produces more accurate and complete data, and contains costs. In 2010, conducting the decennial census will be more complex due to a larger, more mobile and culturally diverse population that speaks more languages. With this increasing complexity, the operational design of Census 2000 cannot be repeated without placing the quality and completeness of the census count at serious risk. Without a systematic, timely, and integrated planning, design, development and testing strategy, the data collection and data dissemination mission of the decennial census will be jeopardized.

Over the past several decades, it has become increasingly difficult to take the census. But the Nation's demand for data is also increasing. The Census Bureau addresses these difficulties and these needs in Strategic Goal 3 of its Strategic Plan:

> **Strategic Goal 3: Meet constitutional and legislative mandates by implementing a reengineered 2010 Census that is cost-effective, provides more timely data, improves coverage, and reduces operational risk.**

The strategy for meeting this goal has three interdependent components:

- Implementing the **American Community Survey (ACS)** to collect census long-form data on an ongoing yearly basis;
- Modernizing and enhancing the Census Bureau's **Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER)** address file and geographic database; and
- Systematically developing, testing, and implementing a 2010 Short-Form-Only Census design that takes advantage of the opportunities offered by the ACS and MAF/TIGER modernization (**2010 Census**).

The concept of the *interdependence* among these three components is essential. They are conceptually, operationally, and systematically dependent upon each other's existence and products. However, each component of the census also has its own unique features and requirements. While acknowledging and respecting the capabilities and requirements of the ACS and MAF/TIGER modernization, this document details the risks associated with the 2010 Census component.

In FY 2002, the Census Bureau had already begun to identify requirements for new and improved methods for implementing the 2010 Census. Limited testing of these new methods also had begun, and will continue throughout FY 2003 and beyond. The goal of this early development and testing is to be in a position to launch a site census test of new methods for data collection and coverage in FY 2004. The 2004 Census Test will enable us to specify the major methodologies and procedures that will serve as the foundation for the 2010 Census. Systems design and development is expected to begin in FY 2003, and to proceed concurrently with the implementation and evaluation of the 2004 Census Test. These efforts will culminate with the 2006 Census Test, which will focus on the systems integration required to test and improve new IT infrastructure needed to support key components of the census design, including the definition of detailed functional requirements for each operation. To supplement, inform, and complement the site census tests, the Census Bureau will undertake activities to investigate new or improved census features that do not need to be tested in a site census test, and/or that must be evaluated before use in a site test. These activities, which have been underway since 2002, include special tests or research activities, to aid in exploring various automation and related options, and support for key staff to perform planning, development and testing management and integration. Taken together, all of these efforts reach fruition in the 2008 Census Dress Rehearsal, which will demonstrate, for final proof of concept, the entire complement of methodological, procedural and systemic innovations designed to contain cost, mitigate risk, and improve data accuracy and coverage in the 2010 Census.

The overarching IT framework for the decennial census currently includes the following principal components:

Automated Field Data Collection -- This component includes global positioning system (GPS) equipped mobile computing devices for use by field staff, software applications to deliver and control field assignments (including coverage measurement field assignments), capture and transmit data, and integrate all systems on the instrument; and personnel, payroll and field office control systems.

Data Capture and Processing – This component includes "pre-collection" processing, the core system that will accept and integrate data inputs from multiple sources (paper, telephone, Internet, and data collection devices used by field staff); systems for capturing and processing data from all operations, including coverage measurement, census evaluations, and post response data processing systems; and geographic processing.

Headquarters Systems - This component includes the Beta Site used to test and manage change control for all hardware and software configurations, 2010 Census Architecture, the Headquarters decennial LAN, the decennial management information system, and the decennial cost model.

Each of these initiatives will evolve as development and testing continues throughout the decade. Taken together, and conducted within an integrated design for planning, development and implementation, they allow the Census Bureau to use the valuable information learned from Census 2000 to take advantage of technological efficiencies and conduct a 2010 Census that contains costs, improves data accuracy and coverage, and mitigates risk.

1.1 Goals of this project

The goal of the reengineering program of the 2010 Census is to produce a census that **"Is cost-effective, provides more timely data, improves coverage, and reduces operational risk."** This statement provides goals for each component (ACS, MAF/TIGER, 2010 Census) as well as the whole program. Here is how it translates into four tangible goals for the 2010 Census component.

1. Assuming the existence and products of ACS and the MAF/TIGER modernization, as well as a planning effort beginning early in the decade, the design and conduct of the 2010 Census will include major design efficiencies designed to contain costs.
2. The 2010 Census will collect and release data in the same time frame as in previous censuses.
3. The 2010 Census will improve the accuracy of census data, especially the coverage of the population and housing inventory, for all geographic levels and demographic groups.
4. The design of the 2010 Census will reduce operational risks by simplification, consistency, testing, and streamlining within and across all of its features.

1.2 Critical Success Factors to achieve those goals

- There will be site census tests in 2004 and 2006 and a true Dress Rehearsal in 2008.

- To supplement, inform, and complement the site census tests, we will undertake activities to investigate new or improved census features that do not need to be tested in a site test, and/or that need to be evaluated prior to use in a site test. Beginning in 2002, these activities include special tests or research activities, contracts to aid us in exploring various automation and related options, and support for key staff to perform planning, research, management, and integration.

- The 2004 Census Test will be used *chiefly* to determine major methodological and procedural design elements for the Dress Rehearsal/2010 Census.

- The 2006 Census Test will be used *chiefly* to test and prove in both methodological and technological (field and automated systems) systems.

- The Census Dress Rehearsal in 2008 will be built on the results of these two major tests and all related research, testing, planning and other activities available in time for incorporation.

1.3 Assumptions that support the Critical Success Factors

The following assumptions are critical for successful planning of the 2010 Census:

- IT systems are central to our ability to improve coverage and data quality, given that we will not be able to rely on the use of statistical methods to make such improvements.

- We must optimize the use of electronic collection systems such as Internet, telephone, and mobile computing devices (MCDs) to address increasing census costs. Implementing the American Community Survey as a vehicle for long form collection both facilitates and dictates the move toward increased use of more efficient and effective electronic data collection systems.

- To address the expected decline of 5-7 percentage points in response rates relative to Census 2000, we must identify and implement cost-cutting innovations in census operations and the development of user-friendly electronic response technologies that make it easier for people to respond to the census.

- Innovations such as GPS-equipped MCDs for data collection are essential if we are to reduce the costly data collection operations that account for the bulk of the overall costs associated with the census.

- To address the increasing emphasis on improving mechanisms for enumerating populations that speak languages other than English and populations with disabilities, our IT systems need to provide the availability of translated questionnaires and language guides, and facilitate the provision of questionnaires to populations with unique requirements.

- We must place greater emphasis on well developed and mature implementation methodologies such as the Capability Maturity Model to better manage the increasing complexity of IT systems.

- IT security and cost cutting innovations will be critical to addressing the need for alternatives to conducting interviews in the field, as a means to address the growing concerns about privacy and confidentiality.

- Significant improvements in the Master Address File and TIGER geographic system will present opportunities for developing IT innovations that can cut cost, improve coverage and data accuracy, and improve efficiencies in field operations.

- Census operations in general will become more complex, placing greater emphasis on the development of IT systems to monitor progress, timing, and implementation.

- Develop an enterprise architecture that will ensure efficient operations of the 2010 Census.

- Development of common data dictionaries, that facilitate the consistent and accurate development, processing, and presentation of census data, will be absolutely essential if we have to meet the growing demands for data that are widely understood.

1.4 Benefits of a Risk Management Strategy

A Risk Management Strategy has several benefits:

- Ensures that the program and its components are realistic, with corresponding improvements in the overall business case and definition of project net benefits.
- Enhances the Census Bureau's understanding of the program and the implications of planning actions during the early stages of the planning process, which can reduce unwelcome surprises and ensure that significant resources are not wasted.
- Provides the opportunity to identify and consider a broader range of options than may be possible when the risk has become an issue, which can conserve resources.
- Allows more time to be made available to address the risks in a careful and well-planned manner.
- Identifies risks and potential risk management actions for input into the Risk Management Plan. Project management will use the Risk Management Plan to track the risk management actions as those actions relate to the overall project schedule.

2 SCOPE

The scope of this document is to present the Census Bureau's assessment of risks to the 2010 Census. A risk is defined as a future situation in the implementation of the 2010 Census planning, development, and implementation, which may adversely impact the conduct of the 2010 Census.

Risk assessment is a three-step process:

Step 1: Identify the potential relevant risks and their potential negative impact on the project in terms of outcome, schedule delays and cost increases.

Step 2: Evaluate the risks in terms of their probability of occurrence, and their potential for negative impact if the risk were to occur. Both dimensions are measured on a scale of one to three, with one being the lowest probability of occurrence (or the lowest negative impact) and three being the highest probability of occurrence (or the highest negative impact.) The severity of the risk on the 2010 Census effort is a product of the probability score and the impact score (Severity = Probability x Impact.)

Step 3: Identify the appropriate manner in which to address the risk. The severity factor of each risk is an important element in making this evaluation. Those risks with a severity factor of 1 or 2 are seen as having a "low" degree of severity. Risks receiving a severity factor of 3 and 4 have a "medium" degree of risk severity. If a risk was assigned a severity of "6," it is seen as having a "high" degree of risk severity. Finally, a severity factor of "9" is seen as having a "very high" degree of risk severity. These risk severity factors are then used to determine an appropriate risk management action. A risk management action depends on the severity of the risk and on whether the risk is an actionable risk or a risk that is out of control of the implementation team (non actionable risk.) Risk management actions include tracking lists, containment plans, and contingency plans.

Additional details on the risk assessment methodology are presented in Appendix A.

Technical risks encompass those risks that present the potential for unmet requirements in terms of project design, delivery schedules, information availability, and the like. Some examples of technical risks include:

- ◊ Inadequate definition of future requirements
- ◊ Designs that do not address the full scope of objectives
- ◊ Hardware or data server incompatibility
- ◊ Design incompatibility between interdependent project components
- ◊ Missed delivery schedules
- ◊ Scheduling problems between interdependent project components

3 Organizational and Change Management Risks Assessment

Organizational risks are overarching organizational issues that Census will face during the planning for the 2010 Census. Three major organizational risks are identified, and assessed in the following sections.

3.1 Design and Operational Risk

Criterion Definition: Census 2000 was jeopardized by design changes late in the decade [for example, the Supreme Court ruling in 1999 disallowing the use of sampling and estimation resulted in major untested design changes and additional costs of $1.7B.] Similar late changes in the 2010 Census design will increase costs and undermine our ability to benefit from the early planning, testing, development, and design central to moving forward with systems acquisition and integration.

Scoring Justification: The likelihood and impact of this key organizational risk is high (resulting in a severity score of 6) due to past precedents such as the Supreme Court ruling in 1999.

Risk Mitigation Analyses: The mitigation strategy is to minimize design changes from within the Census Bureau, and to communicate with a wider audience on the benefits of early planning and development. Externally, the Census Bureau is planning on broadening the communication with stakeholders such as: the Race and Ethnic Advisory Committees, the Professional Advisory Committees, the Decennial Census Advisory Committee, the National Academy of Science, Committee on National Statistics, the U.S. Conference of Mayors, State legislators, and Association of State Governors, and many others who are major users of Census data.

3.2 Risk of not performing a true dress rehearsal

Criterion Definition: Delays in R&D, and iterative testing forces the Census Bureau to not have all systems, methods, and procedures in place for demonstration and proof of concept in the 2010 Dress Rehearsal. Requirements have to be defined and requirements can only be defined if the testing and R&D is completed satisfactorily. The dress rehearsal is dependent on sequential testing and R&D, so that by the year 2008, the Census Bureau is in a position to perform it.

Scoring Justification: The likelihood and impact of not performing a true dress rehearsal is medium (resulting in a severity score of 4.)

Risk Mitigation Analyses: The mitigation strategy is to meet the planning schedules and wrap up R&D, analysis, testing and outsourcing for key systems on time.

3.3 Risk of Alienating Key Stakeholders

Criterion Definition: Stakeholder pressures for changes late in the decade add significant schedule and cost risk to the design effort. Key stakeholders in the 2010 Census planning effort include State, local and Tribal governments, other government agencies, nongovernmental organizations, Advisory Committees, data users and the Congress.

Scoring Justification: The likelihood and impact of this key organizational risk is high (resulting in a severity score of 6) due to past precedents, including Census 2000.

Risk Mitigation Analyses: The mitigation strategy is to involve the key stakeholders early and often during the test and development strategy for the 2010 Census planning. The Census Bureau plans to actively communicate with these stakeholders through regular Advisory Committee meetings, via websites, at conferences, and other regular contacts.

The results of this effort are as follows:

Table 1: Organizational and Change Management Risk Summary Matrix

Risk Description	Likelihood	Impact	Severity Score	Risk Management Action
Design and Operational Risk	**3**	**2**	**6**	**Tracking List**
Risk of not performing a *true* dress rehearsal	**2**	**2**	**4**	**Tracking List**
Risk of alienating key stakeholders	**2**	**3**	**6**	**Containment Plan**

4 Business Risks Assessment

Currently, one business risk is identified.

Criterion Definition: Any changes or delays in approved program funding, or inability to acquire funding due to changes in funding requirements throughout the program's life cycle will reduce the ability to meet program objectives.

Scoring Justification: The likelihood and impact of the project being adversely impacted by a potential lack of funding is high (resulting in a severity score of 6.)

Risk Mitigation Analyses: The mitigation strategy is to continually review program costs, perform periodic evaluation of program alternatives in the event of changes in funding and communicate with stakeholders about the impacts of program changes on later decade funding requirements.

Table 2: Business Risk Summary Matrix

Risk Description	Likelihood	Impact	Severity Score	Risk Management Action
Funding Risk	**2**	**3**	**6**	**Contingency Plan**

5 Data/Information Risks Assessment

Currently, two data/information risks are identified.

5.1 Risk of Low Response to 2010 Census

Criterion Definition: Census 2000 reversed a decades long trend in declining census response rates, but there are indications that this will be difficult to repeat given increasing concerns about privacy and declining public participation in civic events. Low response rates will have a negative impact on overall census costs.

Scoring Justification: The likelihood and impact of the project being adversely impacted by a low response to 2010 Census is medium (resulting in a severity score of 3.)

Risk Mitigation Analyses: The mitigation strategy is to continue to develop and refine, throughout the decade, the Census Bureau's marketing and promotion strategies, as well as the methods for responding to the census. The Census Bureau is taking a "lessons learned" approach from the successful Census 2000 and plans to continue with paid advertising in 2010 to reverse the pattern of declining response rates. In addition, the Census Bureau is exploring the use of new technologies like delivering a replacement questionnaire targeted to nonresponding households, Interactive Voice Response (IVR), and the Internet for reaching out to respondents. The Census Bureau also will provide questionnaires in languages other than English to increase response among recent immigrants and others with special language needs.

5.2 Outsourcing Risk

Criterion Definition: The Census Bureau relies heavily on industry for many critical needs, such as telephone questionnaire assistance (TQA) call centers, questionnaire printing and delivery, data capture, mobile computing devices, etc. The Bureau bears a risk that the private sector may not be able to meet the capacity requirements and/or not be able to meet the expectations/requirements of the Decennial Census. Related risks are associated with our ability to complete acquisition and requirements definition in time to permit contractors to use effective software engineering life-cycle principles and practices in their development efforts.

Scoring Justification: The likelihood and impact of the project being adversely impacted by such outsourcing risks is medium (resulting in a severity score of 3.)

Risk Mitigation Analyses: The mitigation strategy is to work with industry early in the planning cycle to develop and finalize requirements. As an example, the Bureau plans to develop and test prototypes throughout the testing cycle, and finalize the prototype in time for the Dress Rehearsal in 2008.

Table 3: Data/Information Risk Summary Matrix

Risk Description	Likelihood	Impact	Severity Score	Risk Management Action
Low Response to 2010 Census Risk	**1**	**3**	**3**	**Contingency Plan**
Risk due to Out-Sourcing	**1**	**3**	**3**	**Tracking List**

6 Technology Risk Assessment

Currently, two technological risks are identified.

6.1 Technological Obsolescence

Criterion Definition: Systems will not perform as expected or will be obsolete and thus ineffective for the task at hand.

Scoring Justification: The likelihood and impact of the project being adversely impacted by technological obsolescence is low (resulting in a severity score of 1.)

Risk Mitigation Analyses: Early planning, development and testing and design of systems, according to CMM guidelines, will mitigate overall system performance as well as mitigate potential performance problems related to technical obsolescence. For example, the mobile computing devices (MCDs) to be used for enumeration in the 2010 Census are currently being incrementally tested for usability, and for their ability to collection & store information for GPS, etc. The MCDs will be tested during the Methods tests in 2004 and 2006.

6.2 Field Infrastructure Readiness

Criterion Definition: The Census Bureau believes that we can improve the efficiency of our field data collection activities and improve data quality by using inexpensive, mobile, hand-held computing devices – equipped with global positioning system (GPS) capabilities – to find, interview, and collect data from people who do not return their questionnaires. We also believe we can use this innovative technology to improve efficiency and quality of address list and map update field activities. The expected benefits of improved quality in our field processes and products, reduction in space requirements, staffing levels, and increases in general productivity are contingent on how successfully the field offices can re-engineer their business processes to realize the benefits from the new technology infrastructure.

Scoring Justification: The likelihood and impact of the project being adversely impacted by incomplete field infrastructure readiness is low (resulting in a severity score of 1.)

Risk Mitigation Analyses: The Census Bureau is performing comprehensive research and development in its planning for the 2010 Census. Most of this R&D is geared towards field tests in the 2004 and 2006

Census Tests. This will allow for the incremental and iterative development of the business processes needed to ensure the viability of the new technology in time for the dress rehearsal and the 2010 Census.

Table 4: Technology Risk Summary Matrix

Risk Description	Likelihood	Impact	Severity Score	Risk Management Action
Technological Obsolescence Risk	**1**	**1**	**1**	**Tracking List**
Risk due to incomplete field infrastructure readiness	**1**	**1**	**1**	**Tracking List**

7 Strategic Risks Assessment

Currently one strategic risk is identified.

Criterion Definition: The three integral components of the Reengineered Census are 1) ACS, 2) MAF/TIGER enhancements, and 3) Early Planning. Inability to integrate effectively all these three components of the Reengineered Census design into the Census Bureau's business processes will result in failing to realize all projected benefits.

Scoring Justification: The likelihood and impact of the project being adversely impacted by ineffective integration of the three components of Reengineered Census is low (resulting in a severity score of 2).

Risk Mitigation Analyses: The Census Bureau will delineate the roles and responsibilities for each component of the plan to ensure effective integration among the three components of the re-engineered design.

Table 5: Strategic Risk Summary Matrix

Risk Description	Likelihood	Impact	Severity Score	Risk Management Action
Strategic Risk of ineffective integration of the three components of the Reengineered Census	**2**	**1**	**2**	**Tracking List**

8 Develop Adequate System Security Risk Assessment

Currently one security risk is identified.

Criterion Definition: Inability to maintain system security or inability to maintain the public perception of system security is a big concern for the Census Bureau. System security and data privacy are vitally important as decennial census data are collected via self-service mechanisms (i.e. IVR, Web browser).

Scoring Justification: The likelihood and impact of the project being adversely impacted by insufficient system security is high (resulting in a severity score of 6.)

Risk Mitigation Analyses: The mitigation strategy is to continue monitoring technology advances and new security standards, and conduct operational and technical security control testing for maximum effectiveness.

From a design aspect, the Census Bureau will work within an overall security design, and from an operational perspective, the Census Bureau security staff and operations staff will be trained to administer the Bureau's security procedures to maximize the protection of an individual's data from unauthorized access and use (especially for self-service options). Additionally, the Census Bureau security staff will provide on-going monitoring of system security to protect against invasion and to protect against unforeseen circumstances that might lead to loss of vital decennial planning information. The Census Bureau plans to form a Backup and Recovery Analysis team to both identify the unforeseen circumstances that the system should be designed to accommodate, and specify necessary backup and recovery actions. The Backup and Disaster Recovery team will assess the system security architecture and present their findings in a Continuing Operations and Disaster Recovery Plan, to be delivered at least six months prior to the 2004 Census Test.

The Census Bureau plans to address the public's perception of inadequate system security by developing effective strategies for communicating with the public about systems security. The Census Bureau has established an Executive Board that meets monthly to review security issues, and also encourages a number of working groups to meet regularly and publish white papers on policy and guidance.

Table 6: Develop Adequate System Security Risk Summary Matrix

Risk Description	Likelihood	Impact	Severity Score	Risk Management Action
Develop Adequate System Security Risk	**2**	**3**	**6**	**Containment Plan**

9 Privacy Risks Assessment

Currently one privacy risk is identified.

Criterion Definition: Public concerns about privacy and confidentiality issues build to the point where the use of data collection methods, especially highly technological methods, is jeopardized.

Scoring Justification: The likelihood and impact of the project being adversely impacted by a potential lack of privacy is low (resulting in a severity score of 2.)

Risk Mitigation Analyses: The Census Bureau will continue to monitor issues concerning privacy and confidentiality and build effective communication strategies to address these concerns. The Census Bureau has established a comprehensive Data Stewardship Executive Policy board that provides principles and guidance to address all security areas including privacy protections.

Table 7: Privacy Risk Summary Matrix

Risk Description	Likelihood	Impact	Severity Score	Risk Management Action
Privacy Risk	**1**	**2**	**2**	**Tracking List**

10 Project Resources and Management Risks Assessment

Currently two project resources and management risks are identified.

10.1 Lack of project resources.

Criterion Definition: Lack of adequate resources (human, financial, schedule, and material) will result in diminished achievement of objectives and schedule slippage. The Census Bureau will need a substantial staff throughout decade to become familiar with census methodologies such that by the time we get to 2008 and 2010, the staff is familiar with the Decennial Census design and know how to plan and conduct a census.

Scoring Justification: The likelihood and impact of the project being adversely impacted by a potential lack of resources is high (resulting in a severity score of 6.)

Risk Mitigation Analyses: The Bureau plans to conduct periodic reviews throughout the decade.

10.2 Experienced staff attrition

Criterion Definition: The agency will loose, due to retirement and other forms of attrition, a significant number of experienced staff in key operational and technical areas throughout the decade. This trend will be compounded by the lack of resources/ability to replace staff early in the decade so that new staff have the opportunity to participate in tests and early planning leading up to the 2010 Census. These staffing delays, with the resulting impact on experience gained, significantly increases the impact of staff attrition.

Scoring Justification: The likelihood and impact of the project being adversely impact by experienced staff attrition is medium (resulting in a severity score of 3)

Risk Mitigation Analysis: The Census Bureau is developing ascension planning to off-set the effects of experienced staff attrition. Moreover, plans to incorporate incremental development, testing and evaluation early in the decade will provide some opportunity for less experienced staff to obtain operational experience prior to the actual 2010 Census.

Table 8: Project Resources and Management Risk Summary Matrix

Risk Description	Likelihood	Impact	Severity Score	Risk Management Action
Lack of Project Resources Risk	**2**	**3**	**6**	**Contingency Plan**
Loss of Experienced Staff	**3**	**1**	**3**	**Tracking List**

11 Project Dependencies and Interoperability Risks Assessment

Currently one project dependency and interoperability risk has been identified.

Criterion Definition: Stovepipe systems are those systems that are not interoperable with each other. For example, data capture systems, data collection systems, control and tracking systems, and management information systems all have to work seamlessly to minimize systems risk to the Decennial Census.

Scoring Justification: The likelihood and impact of the project being adversely impacted by stovepipe systems is low (resulting in a severity score of 2.)

Risk Mitigation Analyses: The Census Bureau is conducting integrated planning for the 2010 Census. For example, beginning with the development of a logical architecture, the Census Bureau will develop a sound physical and technical architecture that will integrate with the Census Bureau's enterprise architecture, and which will eliminate redundancies, ensure consistency, and allow for incorporation of new methodologies and technologies for the most efficient and cost effective manner.

Table 9: Project Dependencies and Interoperability Risk Summary Matrix

Risk Description	Likelihood	Impact	Severity Score	Risk Management Action
Lack of interoperable systems Risk	**1**	**2**	**2**	**Tracking List**

12 Conclusion and Next Steps

Most risks presented in this plan are mid to late-decade risks. This Risk Management Plan represents an important step in managing and mitigating the risks in the multi-year planning for the 2010 Census. Throughout the decade, the Census Bureau will conduct periodic tests to institutionalize the processes necessary to achieve the goals of the 2010 Census. These tests are an important risk mitigation mechanism as the Census Bureau moves towards successful implementation of the 2010 Census.

As the decade progresses, the risks presented in this document will change – some risks could increase, or decrease in severity, or disappear all together. It is also highly likely that there will be additional risks throughout the entirety of the implementation effort as the 2010 Census business case and project schedules continue to change. As such, this Risk Management Plan will be updated twice annually to keep the content of this document up to date. In addition, this Plan will be shared with key stakeholders including the various Advisory Committees, and the National Science Foundation for their inputs and comments. The stakeholders' feedback will be incorporated into the next version of the Risk Management Plan.

APPENDIX A RISK ASSESSMENT METHODOLOGY

Risk assessment is an iterative process and should be directly tied into the process for managing and tracking issues throughout the life of the project. The approach used for analyzing Census technical risks involves several steps:

1. Identify the risks that are relevant to Census technical components (primarily for the decennial census component of the 2010 Census program.)

2. Evaluate the risks for probability (1=low; 2=medium; 3=high) and for impact (1=low impact; 2=medium impact; 3=high impact) to determine which risks deserve the most attention. The risks will be evaluated by their severity factor, which is the product of the probability and impact scores.

3. Recommend how risks should be managed/addressed based on their severity factor. For example, a risk with a high severity factor might warrant a contingency plan, whereas a low risk would only warrant being placed on a tracking list (see Figure 1 below).

Risk Assessment Steps

Step 1: Identify the Relevant Risks

The first step in a risk management strategy is to identify relevant potential risks and their potential negative impacts to the project in terms of schedule delays and cost increases. The risk identification is best done in facilitated work session environments, by getting the team together to brainstorm for identifying the risks, developing risk statements, which outline the potential impacts on project and its components. For example, a technical risk statement might claim, "There is a risk that the mobile computing devices to be used by enumerators in the field will not perform as expected, and may be too complicated to use."

Step 2: Evaluate the Risks

The second step involves evaluating the risks in preparation for taking appropriate actions. The work session attendees may evaluate the technology risks according to the following criteria:

- By the probability of occurrence
- By the potential for negative impact, in terms of:
  - ◊ Delivery Schedules
  - ◊ Cost Overruns
  - ◊ Hardware/Software Functionality
  - ◊ Hardware/Software Architecture Incompatibility

The second step in evaluating project risks involves determining which risks warrant the most attention. This step involves analyzing each risk on two dimensions. The first dimension is the probability of that risk occurring. This is done on a scale of one to three, with one being the lowest probability of occurrence, and three being the highest. The second dimension is the potential for negative impact if the risk were to become an issue. Again, the risks are evaluated on a scale of 1 to 3, with one being the lowest negative impact, and three being the highest. These two dimensions can be plotted onto a matrix to determine the overall severity of each risk, as shown in Figure 1:

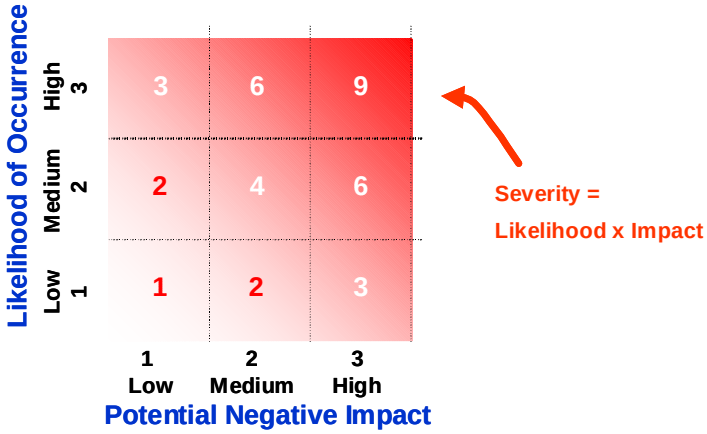


Figure 1: Severity Factor Matrix

Step 3: Identify Manner to Address the Risk

The third evaluation step involves identifying the appropriate manner in which to address the risks. The severity of each risk is an important element in making this evaluation. The second element involves the degree to which action can be taken on that risk. Although the Decennial Census implementation team may not have direct control over the risk, it is often possible for tasks to be undertaken that will reduce the probability of occurrence and/or decrease the negative impact if the risk becomes an issue (an actionable risk). For some risks, however, there are no actions that are appropriate prior to the occurrence of the issue (non actionable risk). An example of a non-actionable risk may be the risk of losing funding due to a reduction in federal appropriations for technology projects in federal civilian agencies. In this case, the potential for a loss of funding may be out of the control of the implementation team, and it is likely that no direct actions are appropriate unless the loss in funding does occur.

In identifying the appropriate manner in which to address the risks, another matrix may be valuable. This matrix (as shown in Figure 2) evaluates risk severity against the degree to which action may be taken. Those risks with a severity factor of 1 or 2 are seen as having a "low" degree of severity. Risks receiving a severity factor of 3 and 4 have a "medium" degree of risk severity. If a risk was assigned a severity of "6," it is seen as having a "high" degree of risk severity. Finally, a severity factor of "9" is seen as having a "very high" degree of risk severity.

The Decennial Census team can then use the severity factor scale and the degree to which an action can be taken on that risk to arrive at a recommendation for the appropriate risk management action to address the risk.

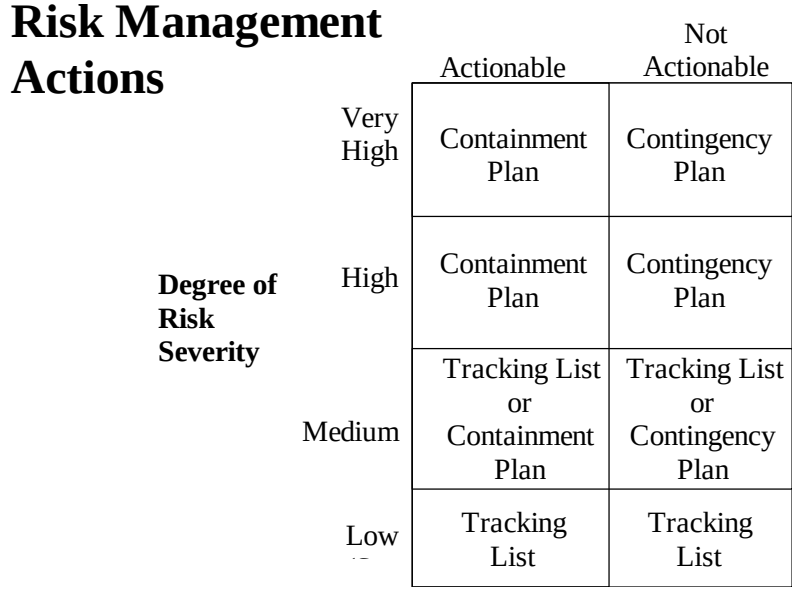


Figure 2: Risk Management Actions Matrix

The Risk Management Actions are defined as follows:

Containment Plans: These plans involve specific actions that **will** be taken to:

- Reduce the probability of the risk turning into an issue
- Reduce the negative impact to the project if the risk becomes an issue

Containment Plans might include the following types of actions:

- Negotiating firm commitments for individuals with critical knowledge or expertise
- Involving additional (or different) people in important roles, activities, or pivotal decisions
- Lengthening schedules for certain activities
- Adding education and follow-up support mechanisms to existing plans for training (e.g., mentoring, "chalk talks," single subject short courses)

Contingency Plans - These plans involve preparation for actions to be taken in the event that a nonactionable risk becomes an issue. Contingency Plans might include the following types of actions:

- Identifying and preparing backup resources for critical activities or areas
- Distinguishing between vital technology components that need to be continued and components that could be delayed with least overall impact to the project

Tracking List: This list is a mechanism to ensure that the identified risks are retained and tracked as the project moves forward. Although no immediate action may be warranted, periodic review of the risks on the tracking list or Tracking Database will assist the implementation team in "keeping their eyes on the horizon." The frequency of reviewing the list is up to the discretion of Decennial Census planning project management, but it is valuable to specify the dates for these reviews in the project plan to ensure that they are not overlooked.

Decennial Census planning project management will use the analysis resulting from Steps 1-3 to assign risk owners that are accountable for preparing the containment or contingency plans or monitoring the changes in probability/impact. The information from this assessment will also be used in other relevant Decennial Census Planning documents that will be updated on a periodic basis to reflect risks in the Decennial Census planning program's evolving environment.

APPENDIX B

REFERENCES

1. 2010 Baseline Design, draft dated March 04, 2003.
2. 2010 Reengineered Census Milestone Schedule Draft #15, dated March 04, 2003.
3. Planning for the 2010 Census (“Plan for the Plan,”) dated March 04, 2003.

14. OPERATIONAL CONCEPT

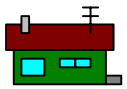
Operational Concept Diagram

The Operational Concept Diagram is a high-level graphic illustrating the vision of the business unit – the concept of operations.

Operational Concept Diagram

Census Planning Management, Census Infrastructure Support

Establish *Where* to Count



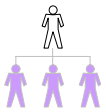
Develop Collection Geography

Budget $$

Local / Tribal / State Governments

Determine Schedule

Forms Production & Distribution



Develop / Manage Contracts

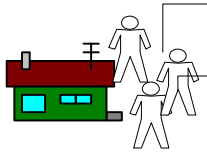
Determine LQs/ Locations

Address File(s) and Map Data

Validate LQs/ Locations

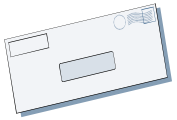
Print & Distribute Forms to HU and Field Offices

Collect Respondent Information



Assistance

Blank forms, nonresponse



Enumeration

Respondent Data Management Data

HU Delivered/Returned Forms

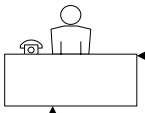
Additional Enumeration Information

Convert and Preprocess Response Data

Coverage Measurement

Provide Results

Processed Respondent Data



White House

Apportionment

Evaluate Census

Edited Respondent Data

Refine Respondent Data

Disseminate Census Results

Redistricting Data

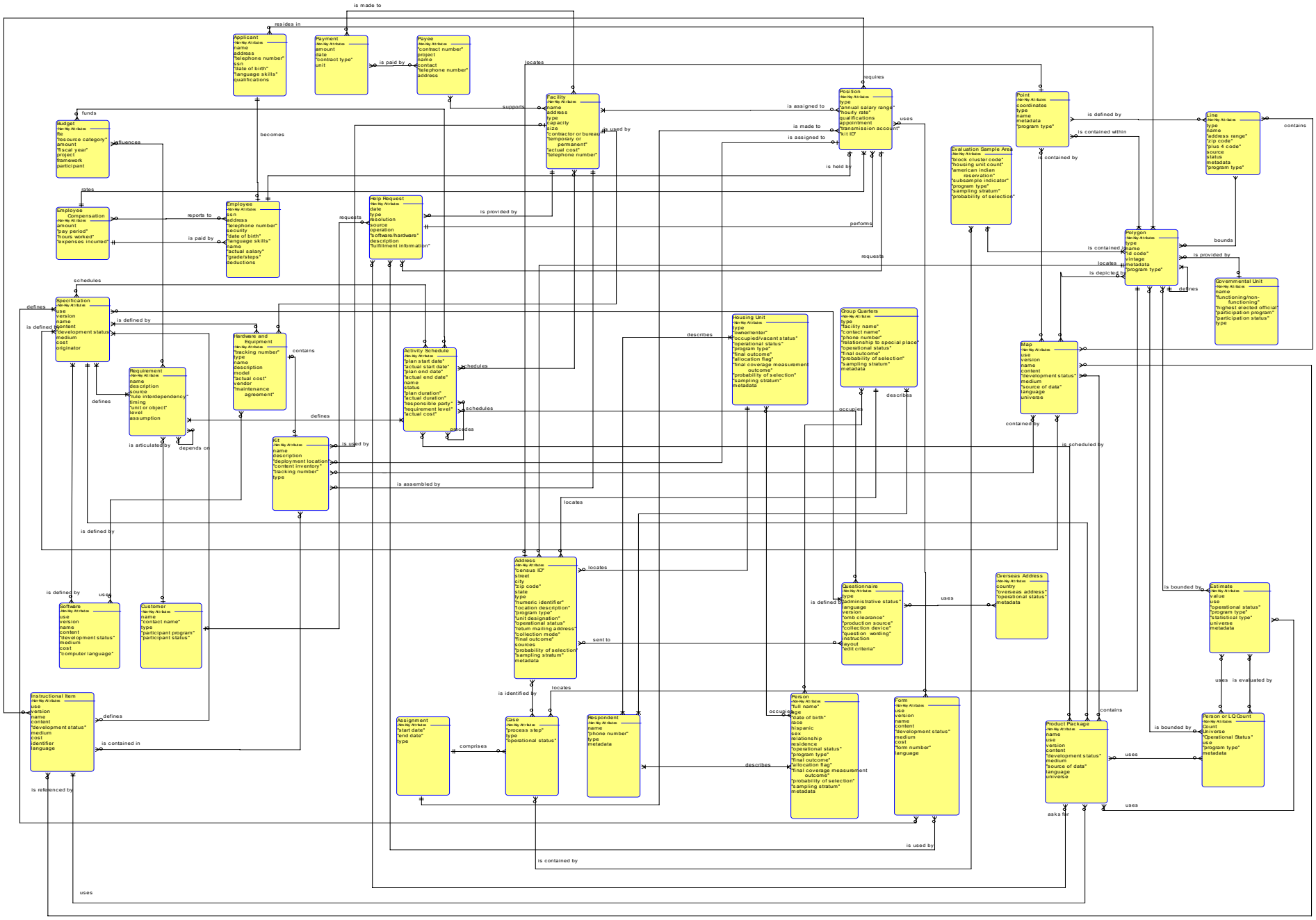
Produce Estimates and Reports

15. ENTITY RELATIONSHIP DIAGRAM

Entity Relationship Diagram

A model of the entities (information/data objects) that are significant to the enterprise. The relationships between entities are implemented later as business rules. The definitions of the entities may be found in Tab 1 of this volume "List of Entities Important to the Business".

2010 Census E/R Diagram
October 2, 2003



16. INFORMATION EXCHANGE MATRIX

Information Exchange Matrix (Conceptual)

The Information Exchange Matrix identifies the information exchanged between business nodes and the relevant attributes of that exchange such as media, quality, quantity, and level of interoperability required. A node is an actual or virtual location at which specific business activities are performed. The Information Exchange Matrix evolves over time as the architecture is developed to increasing levels of detail. At the conceptual level, simply the nodes and information exchanged, called needlines, are indicated. Other attributes of the exchange are provided at the logical level. These are from the nodes and needlines in the Node Connectivity Diagram.

Needline Name	Needline Description	From Operational Node	To Operational Node
Acknowledgement	TBD	Data Processing Center	Telephone Centers
Acknowledgement	TBD	Data Processing Center	Field Office
Acknowledgment	TBD	Data Processing Center	MCD
Address and Images	TBD	Headquarters	Printer
Addressed Mailing Packages	TBD	Printer	USPS
Addressed Packages	TBD	Printer	Field Office
Assignment	TBD	Field Office	MCD
Bulk PUFs and Bulk Forms	TBD	Printer	Special Operations Center
Case Data	TBD	Headquarters	Telephone Centers
Case Data	TBD	Headquarters	MCD
Census Information	For example products, outreach and publicity, estimates, etc.	Headquarters	Publics
Census Information	For example products, outreach and publicity, estimates, etc.	Field Office	Partners
Census Information	For example products, outreach and publicity, estimates, etc.	Headquarters	Partners
Census Information	For example: products, outreach and publicity, estimates, archival data, applicant check request, operational status, methods and plans, and requests for administrative data.	Special Operations Center	Partners
Collected Data	For example: Questionnaire, living quarter, geography, employee, coverage measurement, payroll, and operations data	MCD	Data Processing Center

Needline Name	Needline Description	From Operational Node	To Operational Node
Collected Data	Living quarter, questionnaire, and operational data.	Telephone Centers	Data Processing Center
Completed Paper Forms	TBD	Field Office	Data Processing Center
Completed Returns and UAAs	Paper questionnaire	USPS	Data Processing Center
Delivery Addresses	DSF Refresh	USPS	Headquarters
External Info and Requests	Assistance and requests for questionnaires, language guide, etc.	Publics	Telephone Centers
Kits	A collection of tools and materials to be used by an individual data collector, data capture operator or facility.	Special Operations Center	Field Office
LQ & Quest Data (Internet)	TBD	Respondent	Data Processing Center
Partnership Information	For example: boundaries information, features and LQ updates, other administrative data, applicants, cleared applicant data, local outreach information, field and training office locations, planning information for census operations, oversight questions and recommendations, administrative waivers for employment, requirements, and feedback on census results.	Partners	Special Operations Center
Partnership Information	For example: boundaries information, features and LQ updates, other administrative data, applicants, cleared applicant data, local outreach information, field and training office locations, planning information for census operations, oversight questions and	Partners	Headquarters

Needline Name	Needline Description	From Operational Node	To Operational Node
	recommendations, administrative waivers for employment, requirements, and feedback on census results.		
Partnership Information	For example: boundaries information, features and LQ updates, other administrative data, applicants, cleared applicant data, local outreach information, field and training office locations, planning information for census operations, oversight questions and recommendations, administrative waivers for employment, requirements, and feedback on census results.	Partners	Field Office
Quest / Guide	TBD	Telephone Centers	Publics
Recruiting Information	For example newspaper ads, radio spots, etc.	Field Office	Publics
Request	TBD	Publics	Field Office
Respondent Provided Information	Information provided by respondent about housing units, household members, group quarters, etc.	Respondent	Telephone Centers
Respondent Provided Information	Information provided by respondent about housing units, household members, group quarters, etc.	Respondent	MCD
Spatial and LQ Data	Changes to the feature network and/or address inventory that is not provided by data collection functions. This includes LUCA, BAS, MAFGOR, etc.	Field Office	Data Processing Center
Special Operations Data	This includes results from special operations such as: person and housing unit matching, other evaluation processes, experimental	Special Operations Center	Data Processing Center

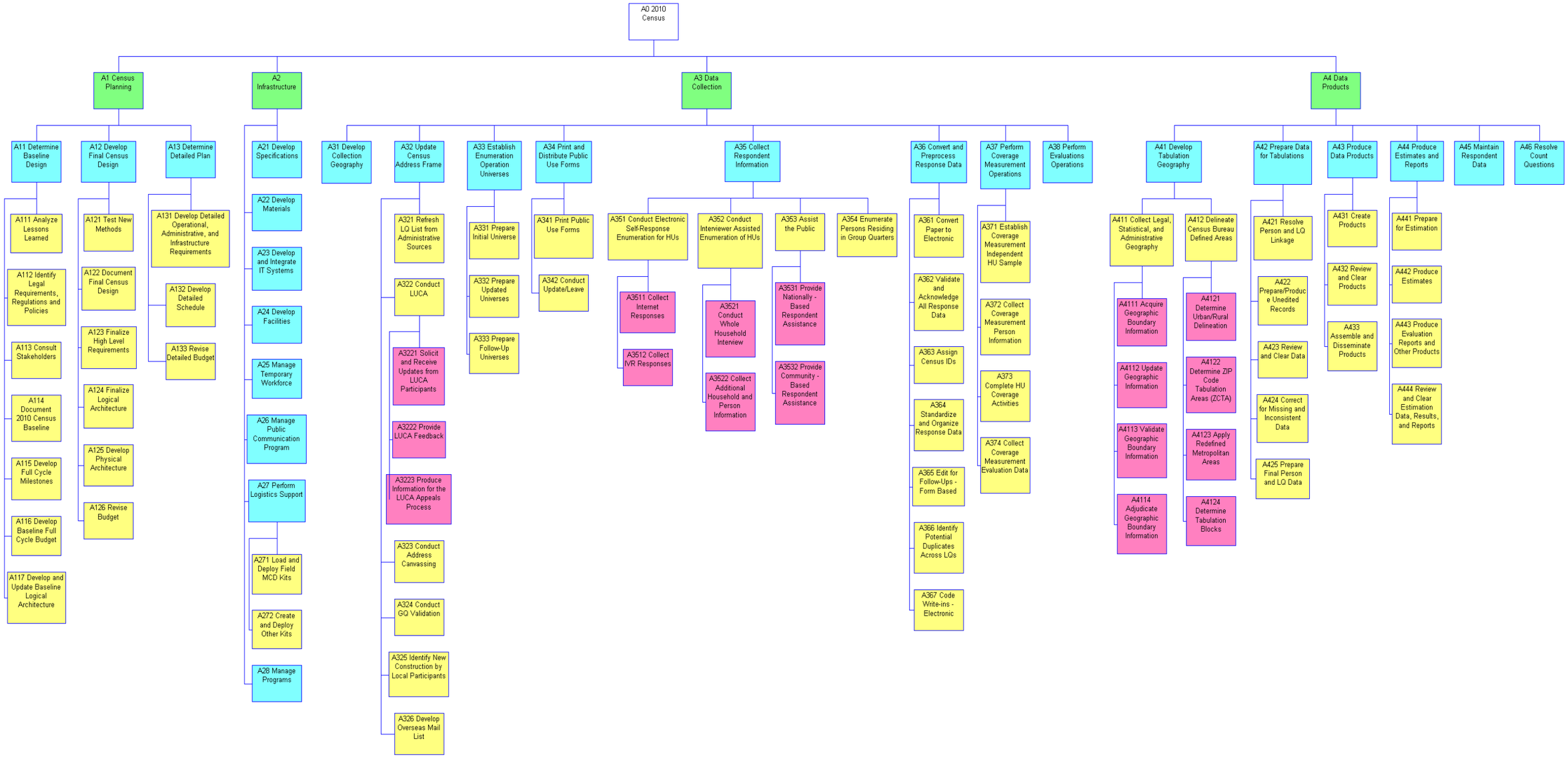
Needline Name	Needline Description	From Operational Node	To Operational Node
	programs, kits assembling, special printing operations, and quality control results. Changes to the feature network and/or address inventory that is not provided by data collection functions. This includes LUCA, BAS, MAFGOR, etc.		
Test Questionnaire	These are the Paper Forms used in the operational tests.	Special Operations Center	Data Processing Center
Validated and Organized Info	For example: Standardized Data: Respondent Questionnaire & Status, Living Quarter, Geography, Employee, Coverage Measurement, Payroll, and Operational Status.	Data Processing Center	Headquarters
Work Load	TBD	Headquarters	Field Office
Work Load	This is the data and/or instructions needed for special operations or data collection. For example: address information for NRFU, person information for matching, images for specialized printing, map and questionnaire images for matching.	Headquarters	Special Operations Center

17. FUCTIONAL DECOMPOSITION DIAGRAM

Functional Decomposition Diagram

The Functional Decomposition Diagram shows the hierarchy of business functions independent of organizational structure and current procedures. It depicts the separation of a function into its constituent parts or elements.

2010 Census Architecture Functional Decomposition



As Of October 3, 2003

18. ACTIVITY MODEL

Activity Model

The Activity Model is a model depicting the relationship among sub-functions. It includes inputs, outputs, constraints, and mechanisms.

The Activity Model contains the Node List Report, the list of activities and their definitions, the list of ICOMS and definitions, and the Activity Model Diagram.

Node List Report
As of October 3, 2003

A0 - 2010 Census

A1 - Census Planning

- A11 - Determine Baseline Design
  - A111 - Analyze Lessons Learned
  - A112 - Identify Legal Requirements, Regulations and Policies
  - A113 - Consult Stakeholders
  - A114 - Document 2010 Census Baseline
  - A115 - Develop Full Cycle Milestones
  - A116 - Develop Baseline Full Cycle Budget
  - A117 - Develop and Update Baseline Logical Architecture
- A12 - Develop Final Census Design
  - A121 - Test New Methods
  - A122 - Document Final Census Design
  - A123 - Finalize High Level Requirements
  - A124 - Finalize Logical Architecture
  - A125 - Develop Physical Architecture
  - A126 - Revise Budget
- A13 - Determine Detailed Plan
  - A131 - Develop Detailed Operational, Administrative, and Infrastructure Requirements
  - A132 - Develop Detailed Schedule
  - A133 - Revise Detailed Budget

A2 - Infrastructure

- A21 - Develop Specifications
- A22 - Develop Materials
- A23 - Develop and Integrate IT Systems
- A24 - Develop Facilities
- A25 - Manage Temporary Workforce
- A26 - Manage Public Communication Program
- A27 - Perform Logistics Support
  - A271 - Load and Deploy Field MCD Kits
  - A272 - Create and Deploy Other Kits
- A28 - Manage Programs

A3 - Data Collection

- A31 - Develop Collection Geography
- A32 - Update Census Address Frame
  - A321 - Refresh LQ List from Administrative Sources
  - A322 - Conduct LUCA
    - A3221 - Solicit and Receive Updates from LUCA Participants
    - A3222 - Provide LUCA Feedback
    - A3223 - Produce Information for the LUCA Appeals Process
  - A323 - Conduct Address Canvassing
  - A324 - Conduct GQ Validation
  - A325 - Identify New Construction by Local Participants
  - A326 - Develop Overseas Mail List
- A33 - Establish Enumeration Operation Universes
  - A331 - Prepare Initial Universe
  - A332 - Prepare Updated Universes
  - A333 - Prepare Follow-Up Universes
- A34 - Print and Distribute Public Use Forms
  - A341 - Print Public Use Forms
  - A342 - Conduct Update/Leave
- A35 - Collect Respondent Information
  - A351 - Conduct Electronic Self-Response Enumeration for HUs
    - A3511 - Collect Internet Responses
    - A3512 - Collect IVR Responses
  - A352 - Conduct Interviewer Assisted Enumeration of HUs
    - A3521 - Conduct Whole Household Interview
    - A3522 - Collect Additional Household and Person Information
  - A353 - Assist Respondents
    - A3531 - Provide Nationally - Based Respondent Assistance
    - A3532 - Provide Community - Based Respondent Assistance
  - A354 - Enumerate Persons Residing in Group Quarters
- A36 - Convert and Preprocess Response Data
  - A361 - Convert Paper to Electronic
  - A362 - Validate and Acknowledge All Response Data
  - A363 - Assign Census IDs
  - A364 - Standardize and Organize Response Data
  - A365 - Edit for Follow-Ups - Form Based
  - A366 - Identify Potential Duplicates Across LQs
  - A367 - Code Write-ins - Electronic
- A37 - Perform Coverage Measurement Operations
  - A371 - Establish Coverage Measurement Independent HU Sample
  - A372 - Collect Coverage Measurement Person Information
  - A373 - Complete HU Coverage Activities
  - A374 - Collect Coverage Measurement Evaluation Data
- A38 - Perform Evaluations Operations

A4 - Data Products

- A41 - Develop Tabulation Geography
  - A411 - Collect Legal, Statistical, and Administrative Geography
    - A4111 - Acquire Geographic Boundary Information
    - A4112 - Update Geographic Information
    - A4113 - Validate Geographic Boundary Information
    - A4114 - Adjudicate Geographic Boundary Information
  - A412 - Delineate Census Bureau Defined Areas
    - A4121 - Determine Urban/Rural Delineation
    - A4122 - Determine ZIP Code Tabulation Areas (ZCTA)
    - A4123 - Apply Redefined Metropolitan Areas
    - A4124 - Determine Tabulation Blocks
- A42 - Prepare Data for Tabulations
  - A421 - Resolve Person and LQ Linkage
  - A422 - Prepare/Produce Unedited Records
  - A423 - Review and Clear Data
  - A424 - Correct for Missing and Inconsistent Data
  - A425 - Prepare Final Person and LQ Data
- A43 - Produce Data Products
  - A431 - Create Products
  - A432 - Review and Clear Products
  - A433 - Assemble and Disseminate Products
- A44 - Produce Estimates and Reports
  - A441 - Prepare for Estimation
  - A442 - Produce Estimates
  - A443 - Produce Evaluation Reports and Other Products
  - A444 - Review and Clear Estimation Data, Results and Reports
- A45 - Maintain Respondent Data
- A46 - Resolve Count Questions

List of Activities and Definitions as of October 3, 2003

Name	Description	Notes
2010 Census	The purpose of the 2010 Census is to provide official population counts for the constitutional purpose of the reapportionment of the U.S. House of Representatives and for legislative requirements regarding redistricting; and to provide population and housing data for federal programs and other uses.	
Acquire Facilities	The process by which the Census Bureau determines the functionality to determine the number and type of offices needed, the activities that are performed in each type of office, the location and duration for leasing each physical space, and the cost. Once this has been determined, contracts for each site are drawn up.	
Acquire Geographic Boundary Information	Obtain, review, and accept boundaries from source information providers such as states, counties and other participants. This is a cyclic activity with partners until data are acceptable.	
Acquire Staff	The process by which the Census Bureau recruits, interviews, trains, and employs personnel to work on Census operations.	
Adjudicate Geographic Boundary Information	This is a two-part process. Part one consists of contacting local governments to determine if discrepancies occur between the government and its neighbor when there is a boundary change. Part two consists of developing comprehensive boundary software edits and resolving them within the Census Bureau before finalizing the Tabulation Geography.	
Analyze Lessons Learned	Review and summarize critical findings of what worked, and what did not work well. This provides an opportunity for improvement based on assessments and formal and informal evaluation studies from previous decennial census.	
Apply Redefined Metropolitan Areas	This includes the analysis of ACS and census data to assist OMB in the determination of the metropolitan areas. This is the geographic framework updated with the OMB defined metropolitan areas based upon the results of the 2010 decennial census.	
Assemble and Disseminate Products	The process by which the Census Bureau makes data available. These are the methods and systems used to assemble and disseminate the data using various media. This includes technical documentation and metadata.	Potential children include: electronic - assembly and dissemination

Name	Description	Notes
	Distribution can be via the Internet or CD-ROM/DVD and/or paper. This includes data released to the public and data used internally.	CD-ROM/DVD paper supporting documentation
Assign Census IDs	This activity attempts to match an incoming response for units without a Census ID to an existing LQ Unit. This activity includes those units with (field generated) and without (external) a spatial reference. This activity determines spatial reference and address information for external responses from living quarters possibly not identified in the Census LQ Universe. This also includes spatially referenced Non-IDs from field operations. For those without a spatial reference that did not match to an existing LQ unit, this activity attempts to locate the unit in sufficient detail for a field worker to verify its existence (This is accomplished through preparation for follow-up.) This includes all post-census activities such as Be Counted (all modes), Urban Update/Enumerate, converting paper to electronic, and activities from field operations.	
Assist Respondents	The various activities that help respondents answer census questions. This does not include actual enumeration. This activity involves providing answers to respondent's inquiries so they can complete their questionnaires. This includes the provision of language guides and replacement of new questionnaire forms. Examples of this activity are Telephone Questionnaire Assistance, Internet Questionnaire Assistance, and Questionnaire Assistance Centers.	
Build Out Facilities	The process by which the Census Bureau orders, purchases, and deploys equipment and supporting services. This includes setting up the phone, facsimile, and computer lines needed for the functioning of the physical space. It also includes administering proper security measures.	
Census Planning	The process by which the Census Bureau studies needed improvements, completes iterative small- and large-scale testing to refine and integrate new methodologies, and determines the design for the decennial census.	

Name	Description	Notes
Close Facilities	The process by which the Census Bureau dismantles the physical space and the disposition of the remaining equipment and supplies. This includes proper disposal of confidential data.	
Code Write-ins - Electronic	This is the process that assigns classification codes to write-in responses. For example, Hispanic origin and/or race written responses. This includes all the automated and residual coding.	Paper responses have been converted to electronic.
Collect Additional Household and Person Information	The processes by which the Census Bureau interviewers obtain additional, corrected, and/or validate information from respondents for housing units. This includes the following examples: large household follow-up and person coverage follow-up, unduplication follow-up, validation of Be Counted units, and follow-up of potential external non-ID adds which may be fabricated responses. Data will be collected by outbound telephone calls and/or personal visits. This may involve visiting group quarters to resolve unduplication issues. This incorporates the updates of Geographic Framework information. Updates to the LQ List are contained in the respondent questionnaire and status data.	
Collect Coverage Measurement Evaluation Data	This activity is the various independent data collections, re-processing, and other processing conducted for the purposes of understanding, assessing, and validating the person and housing unit coverage measurement estimates. This activity includes the identification of evaluation sub-samples as needed.	These ICOMs are not an exhaustive list but they serve to illustrate how this activity fits into the census process.
Collect Coverage Measurement Person Information	This is the independent enumeration of persons in P-Sample HUs for subsequent comparison to the corresponding census enumerations in the coverage measurement areas. This includes identification of the E-Sample and the matching and reconciliation of the P and E persons samples, and the determination of final interview status.	Nine Possible Children: 1. Conduct Person Interview -- Telephone -- Field 2. Prepare Data for Person Matching

Name	Description	Notes
		3. Identify E Sample -- HUs and Persons 4. Automated Matching 5. Computer-Assisted Matching 6. Prepare for Person Follow-up 7. Conduct Person Follow-up 8. Conduct Final Person Matching 9. Perform interview outcome coding
Collect IVR Responses	The process by which the Census Bureau makes it possible for the population in housing units to self-respond by Interactive Voice Response (IVR). This mode will only accept responses with a valid census identification number. If feasible, this will include the online interactive resolution by the respondent of certain edit and person coverage inconsistencies (audit resolution conditions) to determine the form POP count.	
Collect Internet Responses	The process by which the Census Bureau makes it possible for the population in housing units to self-respond by Internet. This mode will only accept responses with a valid census ID. This will include the online interactive resolution by the respondent of certain edit and person coverage inconsistencies (audit resolution conditions) to determine the form POP count. For overseas, this includes accepting responses to the questionnaire without a valid census identification number.	
Collect Legal, Statistical, and Administrative Geography	The process by which the Census Bureau gathers political geographic boundaries from external entities and stakeholders. This is how all governmental units for the decennial are identified.	
Collect Respondent Information	This is the enumeration of persons and the characteristics of living quarters by either self-response or interviewer-assisted means. This includes data	

Name	Description	Notes
	collection for all evaluations, experiments, and coverage measurement operations.	
Complete HU Coverage Activities	This is the matching and reconciliation of the E-Sample and P-Sample HUs needed to produce information for final HU coverage estimates	Four possible children: 1. Match E-Sample HU to P-Sample HUs 2. Final HU Follow-up (includes TES 2) 3. Final HU Match 4. Send to Estimate
Conduct Address Canvassing	This is the process that conducts the dependent canvassing of the Initial Census Living Quarters list including any Local Update of Census Address program updates as necessary, updating living quarter attributes and features for selected areas. Field Systems may revise pre-determined administrative areas for undertaking data collection such as assignment areas, crew leader districts, etc. This incorporates the update of both the LQ list and the geographic framework information. This also incorporates independent verification of deletes.	
Conduct Electronic Self-Response Enumeration for HUs	The process by which the Census Bureau makes it possible for the population in housing units to self-respond through electronic means, to the census. The modes include Internet and IVR only.	
Conduct GQ Validation	This activity identifies living quarters classified as "other" units as either a housing unit or group quarters. If it is a group quarters, we obtain additional information. If the living quarter is a housing unit, we update the housing unit list. This may result in the identification of additional housing units or other LQs may be marked as not found. Field Systems may revise pre-determined administrative areas for undertaking data collection such as assignment areas, crew leader districts, etc. This incorporates the updates of the LQ list.	
Conduct Interviewer Assisted	The process by which the Census Bureau interviewers assist respondents to provide data for all types of housing units and the persons living in them. This	

Name	Description	Notes
Enumeration of HUs	includes the following examples: Nonresponse Follow-up, Coverage Edit Follow-up, evaluations, Coverage Improvement Follow-up, unduplication follow-up (could include group quarters), coverage measurement, special enumeration (Alaska, colonias), Urban Update Enumerate, Update Enumerate, and new construction. This also includes referrals from Telephone Questionnaire Assistance that result in an operator-assisted interview.	
Conduct LUCA	The legal process in which the initial Census living quarters address list is shared with participating tribal and local officials for their update for completeness and spatial location. This process also includes recording data about participants and participation. This incorporates the updates of both the LQ list and the geographic framework information.	
Conduct Update/Leave	This is the process whereby census enumerators distribute questionnaires and update the living quarters and the geographic information, as appropriate, in predetermined areas. This incorporates the updates of both the LQ list and the Geographic Framework information.	
Conduct Whole Household Interview	This activity obtains responses for all persons living in the housing unit that did not provide a response from the self-response enumeration. This also includes telephone interviews that are respondent initiated and/or referred from other modes. Field systems may revise pre-determined administrative areas for undertaking data collection such as assignment areas, crew leader districts, etc. This includes adding living quarters, adding coordinates and updating maps. This may be done using enumerator assisted telephone or personal interviews. This is an iterative process that includes non-respondents, vacant check, new construction enumeration, delete checks, remote Alaska, and Update/Enumerate procedures. This will include the interactive resolution, with the respondent, of certain edit and person coverage inconsistencies (audit resolution conditions) to determine the form POP count. This incorporates the updates of the Geographic Framework information.	

Name	Description	Notes
	Updates to the LQ List are contained in the respondent questionnaire and status data.	
Consult Stakeholders	This is the process that identifies the parties with significant interest in the 2010 Census. We communicate tentative census plans, consult, and solicit advice from stakeholders.	
Convert Paper to Electronic	This process receives census records, records the receipt of paper questionnaires, and transforms the responses contained on them via image processing to a prespecified electronic format. This includes assignment of interim processing identification to questionnaires received without or with an unreadable census identification in order to accomplish checkin, normal data conversion, and special processing related to non-ID'd forms. This process also receives and records the receipt of USPS undeliverable questionnaires. Archivable response data is created during these conversion processes. This is a touchpoint with the American Community Survey. Completed, machine-readable data from Paper Conversion is provided to and for the Validation process. ACS Touchpoint.	Four possible children: 1) Mail Receipt, Check-In, Reverse Check-In, Doc Prep 2) Scanning, Automated Response 3) Key from Image, Audit Resolution 4) Creation of Image, Destruction Prep, Data Transfer and Acknowledgement Receipt, Check-Out
Convert and Preprocess Response Data	The process by which the Census Bureau converts paper-based responses to electronic format. For all modes, this includes the processes that receive and validate response data, perform follow-up edits, and assign classification codes to write-in responses. This process also standardizes the responses by transforming them into a single data format for subsequent processing.	
Correct for Missing and Inconsistent Data	The process by which the Census Bureau identifies and corrects for data inconsistencies, fills in missing characteristics, and substitutes neighboring entire person/unit characteristics. This is an American Community Survey (ACS) consistency touch point. This was formerly known as Hundred Percent Edited File (HCEF) formation.	
Create Products	The process by which the Census Bureau tabulates and/or cross-tabulates data and summarizes the result. This includes the creation of geographic products (paper and electronic maps, comparability files, and spatial data). This includes the following demographic products: population counts for apportionment,	Potential children are: redistricting data, summary files, automated matches, printed reports,

Name	Description	Notes
	redistricting data, summary files, printed reports, Public Use Microdata Sample (PUMS), interactive cross-tabulation systems, and residual special tabulations. This also includes summaries of operational information (e.g. response rates by mode and geography). This is an American Community Survey (ACS) touchpoint and control.	geographic products (maps, comparability files, spatial files, FGDC metadata), operational data (e.g. response rates), interactive cross-tabulation systems (Advanced Query), web services, PUMS, special tabulations
Create and Deploy Other Kits	Paper kits	
Data Collection	The process consisting of: 1) Developing and deploying all data collection tools and controls. 2) Collecting information for updating and correcting the living quarters inventory and related spatial data needed to ensure a complete enumeration. 3) Conducting the enumeration by various means of persons residing in these living quarters. 4) Collecting information about the characteristics of these living quarters. 5) Capturing and cleaning-up the respondent and living quarters data for tabulation.	
Data Products	The process by which the Census Bureau prepares, tabulates and/or summarizes, and disseminates the data from the Census.	
Delineate Census Bureau Defined Areas	The process that delineates tabulation blocks, ZCTAs (zip code tabulation area), metropolitan areas, and urban/rural areas.	
Deploy Response and Assistance Instruments	This is the process where the software is released for the Internet, Computer Assisted Telephone Interviewing, outbound data collection follow-up, Interactive Voice Response, Telephone Questionnaire Assistance, and Internet Questionnaire Assistance operations	
Determine Baseline Design	The process that establishes major components and parameters for the 2010 Census. This is an iterative process, beginning with an initial baseline design and concluding with a final design.	

Name	Description	Notes
Determine Detailed Plan	The process that develops the detailed "road map" for accomplishing the functionality for each of the necessary operations, systems, and infrastructure components necessary to conduct the census. This plan will address detailed requirements, schedule and budget.	
Determine Staffing Skills	The process by which the Census Bureau evaluates what competencies are needed in prospective employees, based on the type of work that has to be done.	
Determine Tabulation Blocks	This is the geographic framework updated with delineation of the final tabulation blocks based on all other tabulation boundaries.	
Determine Urban/Rural Delineation	This is the geographic framework updated with the results from the process by which the Census Bureau delineates urban clusters and urbanized areas at the block level.	
Determine ZIP Code Tabulation Areas (ZCTA)	This is the process by which we assign a ZCTA to a tabulation block based on the predominant codes of the addresses in the MAF which geocode to this block. For areas where there is no predominant ZIP Code, a 3 digit ZIP will be used for that block. The entire LQ list (both residential and non-residential) is used to determine the ZCTAs.	
Develop Baseline Full Cycle Budget	Consistent with the baseline design, this process identifies the major operational components, assumptions, parameters and their associated costs that contribute to the ten-year costs for the 2010 Census. This is a touchpoint with the American Community Survey (ACS) and MAF/TIGER.	
Develop Collection Geography	This process determines and defines the boundaries of geographic entities that are used to support and structure various collection activities. This includes TEA definition. This process identifies and delineates the geographic areas needed to support a specific collection activity, such as pseudo tracts, Local Census Offices (LCOs), administrative areas, etc. This activity includes the formation of sample areas using LQ data counts, groups of contiguous census collection blocks, and the stratification and selection of the CM sample areas for which an independent address list will be created. This activity includes the identification of the ring of blocks surrounding the	

Name	Description	Notes
	selected sample areas.	
Develop Detailed Operational, Administrative, and Infrastructure Requirements	The process that develops and gathers the comprehensive documentation detailing what the user requires to implement all of the operations, systems, and infrastructure functions for the 2010 Census. These govern the development of the specifications for each activity and function. This process follows industry best practices and CMM guidelines.	Six Possible Children: Develop Detailed Content Requirements Definition: Includes the Office of Management and Budget and Congressional approval, and includes development content. This is a touchpoint to ACS. Develop Detailed Evaluations and Experiments Develop Detailed Data Products Requirements --Definition: The process of determining the various standard data products that will be produced and systems that will be used for the 2010 Census (e.g., summary files, printed reports, cross-tabulation systems, etc.). This includes determining the detailed subject-matter and geographic content and requirements, as well as the type of media and dissemination (e.g., internet, CD-ROM/DVD, FTP). This also includes gathering input from

Name	Description	Notes
		stakeholders. Develop Detailed Operational Requirements Develop Administrative Requirements Develop Infrastructure Requirements
Develop Detailed Schedule	The process that develops the comprehensive documentation of the sequence, relationships, durations, and timing of all activities necessary to conduct the 2010 Census.	
Develop Facilities	This is the determination of the type, number, size, and location of various facilities based on the functional and technical requirements and specifications necessary to support the census. This includes the activities to design, acquire, build out, manage, and close those facilities. This includes physical security infrastructure such as metal detectors, cypher locks, IDs, cameras, and guards. Build out includes LAN and WAN, electrical, telecommunications.	
Develop Final Census Design	Based on results of the census test program and other research, the process that determines the final census design components and parameters to meet the objectives and goals for the 2010 Census.	
Develop Full Cycle Milestones	The process that identifies key events and associated time, necessary to accomplish planning and conduct of the 2010 Census. This is a touchpoint with the American Community Survey (ACS) and MAF/TIGER.	
Develop Instruments for all Address and Respondent Activities	The process that develops the forms design and software for all collection vehicles, media, and public use forms. This is a touchpoint with the American Community Survey (ACS).	This includes all evaluations, experiments, coverage measurement collections; all field collection instruments for Pre-Census, Census Collection Functions and Post-Collection Functions; address updates and validation, map updates, group

Name	Description	Notes
		quarters activities, independent listing, and overseas. This activity should be absorbed in the Infrastructure activity. 10/02/2003
Develop Materials	This is the design, development and printing of non-data-specific reference materials, procedures, training guides and materials, operational support forms (includes PUFs), documentation for metadata, outreach and promotional materials, and initial coding dictionaries. This process will include design and formatting of images that we would use to print a form. This does not include purely electronic materials that require development of applications. It is included in activity Develop IT.	
Develop Overseas Mail List	The process that compiles and converts into consistent electronic format the information from administrative records on American citizens living overseas requesting to receive a census form.	
Develop Physical Architecture	This is the process of classifying and organizing the actual network of software and hardware systems assembled to carry out the work of the 2010 Census.	
Develop Specifications	This is the process by which the Census Bureau translates detailed requirements and schedules into instructions for the design and development of tools, materials, products, systems, processes, and interfaces.	
Develop Tabulation Geography	This is the process that identifies and delineates the geographic entities for which census data are tabulated.	
Develop and Integrate IT Systems	Design (physical), build, integrate, test, deploy, and retire the systems necessary to manage and support all phases of the Census. This includes both internal and contracted systems. Systems will be developed following bureau standards for applying CMM processes to the development and management of all phases of the life-cycle. The process that develops the software for all electronic modes of collection.	This includes all evaluations, experiments, coverage measurement collections; all field collection instruments for Pre-Census, Census Collection Functions and Post-Collection Functions; address

Name	Description	Notes
	This is a touchpoint with the American Community Survey (ACS). This does not include support or running production processes. May include the following children: --Deploy Systems - The process by which the Census Bureau installs hardware and releases production-ready software to the users and facilities. Design System Interfaces - The process by which the Census Bureau details and then programs the interactions between computer systems, and the data exchange between them. --Design Systems - The process by which the Census Bureau details the requirements and specifications for the software needed to carry out the Census operations. This includes the requirements and specifications to secure the data throughout the entire life cycle. --Develop and Acquire Systems - The process by which the Census Bureau purchases or leases equipment and programs the software to run on those systems, according to specifications. --Retire Systems - The process by which the Census Bureau archives software and hardware systems that were used for Census operations but are no longer needed to process data. This includes cleaning systems of Title 13 data at the completion of all census activities. --Test Systems - The process by which the Census Bureau runs through each step of a software program and the associated interfaces to ensure the detailed requirements are met. This includes Beta testing.	updates and validation, map updates, group quarters activities, independent listing, respondent assistance, and overseas.
Develop and Update Baseline Logical Architecture	The process that defines a logical structure for classifying and organizing Census processes. The Logical Architecture is independent of technologies and implementations. This architecture reflects the initial baseline and revised assumptions and parameters. This is an iterative process. This is a touchpoint with the	

Name	Description	Notes
	American Community Survey (ACS) and MAF/TIGER.	
Document 2010 Census Baseline	This is the process of preparing documentation describing the key parameters, assumptions, and design features of the 2010 Census. This is an iterative process.	
Document Final Census Design	This is the process of preparing final documentation describing the key parameters, assumptions, and design features of the 2010 Census. This includes final consultation with stakeholders.	
Edit for Follow-Ups - Form Based	This is the process that identifies follow-up cases based on specific respondent information. An example includes inconsistent or missing information requiring follow-up. This includes the status and information of all forms whose data are being reviewed. In addition to identifying cases for follow-up, this activity also identifies the respondent information needed to conduct follow-up. This includes large household follow-up determination and person coverage follow up. For Census 2000, only self-responses were eligible for inclusion in the follow-up. This also includes identifying potential external non-ID adds which may be fabricated responses for field follow-up. This activity, in combination with Prepare Follow-Up Universes, comprises the complete workload of follow-up activities.	The activity Prepare Follow-Up Universes identifies whole household interviews (including NRFU, Vacant/delete Follow-up, New Construction interviews) and Field Verification of housing unit existence.
Enumerate Persons Residing in Group Quarters	This is the activity that collects person data for all persons who may reside in GQ locations, regardless of enumeration means or procedures. This activity includes the advance operations necessary to undertake the enumeration. This incorporates the updates of both the LQ list and the Geographic Framework information.	
Establish Coverage Measurement Independent HU Sample	This is the independent collection and identification of housing units for subsequent independent person enumeration. This includes the matching and reconciliation of the independent HUs list to the pre-census LQs in the corresponding areas. Initial Universe Selection is for housing units counts for independent listing QC.	Nine Possible children: 1. Independent Listing of Sample Areas 2. Subsample Areas 3. Match LQs to Census

Name	Description	Notes
		4. Relist Suspicious CM Areas 5. LQ Follow-Up 6. LQ Follow-Up Matching 7. Identify P Sample (Subsample) 8. Identify TES Areas 9. Conduct TES (Census LQ)
Establish Enumeration Operation Universes	These are activities associated with defining and determining universes that are used as controls for later census enumeration and processing operations. The Census identification number within and among operations stores all these transactions.	This includes the following: - define universe (action) - list universe (output) - universes for the print files (output) - check-in status (control) - universe for check-in (output) - acknowledged check-ins (control) - acknowledgement of questionnaire check-in (control) - type of enumeration and distribution method (output) - follow-up universes (includes the field control systems) (output) - evaluation universes (output) - surname needed /exists, subsurname (output)

Name	Description	Notes
		- experiments universes (output) - data format (form type) (control) - status information from each operation cumulatively (control) - reinterview information and replacements (control) - source (for PSA purposes) (control)
Finalize High Level Requirements	Based on the final 2010 census design, this activity determines the functionality of the necessary operations, systems, and infrastructure to conduct the census.	
Finalize Logical Architecture	This activity finalizes the logical structure for classifying and organizing Census processes. The Logical Architecture is independent of technologies and implementations. This architecture builds on the intermediate architecture and reflects assumptions and parameters from the final census design. This is a touchpoint with the American Community Survey (ACS) and MAF/TIGER.	
Identify Legal Requirements, Regulations and Policies	This is the process of reviewing and documenting legislation, administrative policies, and regulations affecting the design, planning, and conduct of the 2010 Census. As necessary, the Census Bureau requests changes to or waivers from laws, policies, or administrative regulations.	
Identify New Construction by Local Participants	This is the operation that captures addresses of recently built living quarters and new streets provided by local participants up to Census Day. This occurs after Local Update of Census Addresses (LUCA) feedback and material returned after Census Day. This activity provides LQ and spatial materials necessary for the participants to conduct the new construction program, and the receipt of new LQs and their spatial location from the participants. The LQ List and geographic information are updated with addresses and new streets. This process also includes recording data about participants and participation. This activity includes using the latest USPS information	

Name	Description	Notes
	to provide to the participants.	
Identify Potential Duplicates Across LQs	This is the process by which the Census Bureau identifies persons potentially enumerated more then once in the Census, but in a different Census LQs. Although LQ attributes are used as match keys and multiple or all persons within an individual LQ may be identified as potentially enumerated again in another LQ, this activity does not identify either duplicated LQs or within LQ person duplication. Thus, this activity identifies two or more persons in different LQs who are assumed in all likelihood to be the same person. Other activities identify potentially duplicated LQs and/or persons within an individual LQ.	
Information Frameworks	This is the process by which the Census Bureau develops and/or maintains the spatial, living quarters, respondent frameworks, and the associated metadata.	
Infrastructure	This is the process by which the Census Bureau develops the foundation tools to support the 2010 Census. The infrastructure supports many functions throughout the Census.	
Load and Deploy Automated Systems for all Addresses and Respondents	This is the deployment process for all electronic systems for address building, enumerations [enumerator instrument, Interactive Voice Response (IVR), Internet, Computer Assisted Telephone Interviewing (CATI), overseas address collection instruments, outbound instruments], questionnaire assistance, experiments, and evaluations.	
Load and Deploy Field MCD Kits	This is the process where the software is loaded onto the Mobile Computing Devices (MCDs) and the kits are distributed to the field offices. The software loaded includes the complete suite of software necessary to conduct field operations. This also includes assembling peripherals and associated equipment. This process may be repeated as needed.	
Maintain LQ Framework	The process that maintains and updates the LQ data.	
Maintain Respondent Data	This is the activity which provides access to and extract capability from the complete set of collected and captured response data/images following resolution of each person's eligibility for inclusion in the census, along with the linked, universe and control/status information kept for every census or potential census LQ from initial selection through final collection/capture. Also, contained for this activity's usage, are the complete set of census unedited and	

Name	Description	Notes
	edited data records, as well as the final micro data information from which census data products and coverage estimates are produced. Data are queried and/or extracted from one or more of these information sources based on geographic and/or data attributes, depending on user requirements and desires. This activity provides the source for official archival, research center, and age search data from a particular census. In addition, census evaluations and experiments of many types will draw information from this repository, for example, the master trace sample, the data capture evaluation, and so forth. This activity acts as a source for stratification for future survey sample selection. This includes links to 2000 data and geography, and is used to tabulate 2010 data for any unique set of geography independent of any existing set of geography. This is a touchpoint with ACS.	
Manage Programs	This is the process by which progress, cost and performance are measured using various tools such as earned value analysis and performance measures. This includes maintaining and managing the work breakdown structure, budget, requirements and master activity schedule. Determine and evaluate any variances against the plan and budget. Develop corrective plans maintain and manage risk including developing contingency and mitigation plans. Maintaining and managing changes against the baseline architecture (includes updating to reflect changes) and requirements. This also includes contract management. Includes archival, maintenance and retrieval of operational and administrative data.	
Manage Public Communication Program	This is the collection of programs and processes that foster and promote knowledge, acceptance, participation, and response to the census by the public and various organizations and institutions that represent segments of the public. The program has several major elements: 1) a contact strategy intended to maximize self-response to the census through an effective combination of response options, messages, and mailings; 2) a partnership/outreach program that works through a variety of national and local partners, including individuals, organizations, institutions, and	Possible Children: 1) Develop Partnership Outreach Program 2) Develop Paid Advertising Program 3) Develop Media Relations

Name	Description	Notes
	governments, to promote awareness and participation among the constituencies of these partners; 3) a media and advertising program that works through print and electronic news media to publicize, support, and promote the census and its processes and products, through the use of paid and unpaid advertising, news releases, media events, and direct contacts.	4) Develop Contact Strategy Definitions are located in archives for possible future use.
Manage Temporary Workforce	This is the activity that identifies, acquires, pays, and manages the temporary work force required to support the unique requirements for the Census. This excludes all permanent census staff. This includes the management of recruiting, hiring, payroll, EEO, pay rates, and other administrative exceptions such as waivers. This does not include the day-to-day management of the assignment of employees.	
Perform Coverage Measurement Operations	This is the process by which the Census Bureau independently collects and processes the relevant information to produce the measure of the net coverage of persons and housing units in the Census. This includes various quality checks needed to understand and validate coverage measurement estimates.	
Perform Evaluations Operations	This is the data collection, processing and other operations that provide the raw data to produce the quality and the cost-effectiveness measures of the 2010 Census and for future census planning. This includes any additional sampling needed in addition to universe selection samples. Examples of activities include content re-interview, trace sample, demographic analysis, field staff debriefing, operational performance and cost analysis, and independent evaluation data collection.	These ICOMs are not an exhaustive list but they serve to illustrate how this activity fits into the census process.
Perform Logistics Support	These are the activities for managing, controlling and disposing of inventories of all kinds. This includes assembly, staging, shipping and replenishing of kits, both paper and electronic.	
Prepare Data for Tabulations	The process by which the Census Bureau prepares raw responses for data products.	
Prepare Final Person and LQ Data	The process by which the Census Bureau organizes individual, processed records for further review and product processing. This includes disclosure avoidance, preparation of tabulation recodes, and tabulation	

Name	Description	Notes
	geography. This was formerly known as Hundred Percent Detail File (HDF) formation.	
Prepare Follow-Up Universes	This activity identifies follow-up universes based on requirements and schedules acting upon the initiation of the initial collection effort and processing of its results (mail, electronic, personal visit) for all Census Initial and Updated living quarters (LQs). Field/Telephone follow-up activities are eclectic and time/event sequenced, ranging from collection of data from nonrespondents and near nonresponders, follow-up of potential external non-ID adds which may be fabricated responses, status confirmation for vacant and deleted units, reverse interviewing to rectify coverage discrepancies and/or initial reporting constraints, verification of LQs added/changed during collection, and so forth. The status and results of all mandated follow-up attempts and results will be maintained, along with pre-census operational status, in order for post capture processing to occur. This activity is dynamic and iterative, both methodologically and geographically, in its implementation. All LQs needing resolution during and as the result of the collection effort are included in this activity, including unduplication activities. Includes updates to evaluation/experimental samples as appropriate. Defines enumerator assignment areas as prescribed by the detailed requirements.	
Prepare Initial Universe	This activity defines and preserves the initial census collection entities and universe throughout all census operational processes. This is the base universe upon which census operations/activities [pre, post, and during the census] will be based and their results controlled. Changes to this initial universe will be made only through later and specific census operations/activities. Those living quarters (LQs) in this initial universe that are defined as 'Other Living Quarters' are made available for Group Quarters Validation. Processing of this Census LQ universe includes the formation of census identification numbers, which may include references to collection geography and unit attributes [e.g., method of enumeration/collection distribution, special enumeration, evaluation/experimental samples, return processing necessities, priorities, site, and so forth]. Such information is made part of the census 'label file' and is retained and appended to during the	

Name	Description	Notes
	census. This activity cannot begin until the Address Canvassing is complete and incorporated into the LQ framework. This reflects the identification of address canvassing LQs that have been confirmed as deleted and will not be included in this extract (or future extracts) for the census.	
Prepare Updated Universes	This activity includes updates to the initial Census LQ Universe based on activities such as Group Quarters Validation, Delivery Sequence File (DSF) Refresh(es), New Construction, Local Update of Census Addresses (LUCA) Appeals, and so forth. Commensurate changes are reflected in the collection control and processing universe(s) as a means to control the results of the initial census collection effort consistent with the Census living quarters attributes. A subset of these Census living quarters forms the universe for Group Quarters Advance Visitation and Enumeration. The number and timing of updates will be determined by operational requirements and schedules. Mailing of replacement questionnaires for select nonrespondents are defined from this universe. This includes updates to evaluation/experimental samples as appropriate. This includes a separate component for forming the overseas universe. This is an iterative process. This is accumulated status and related information from all previous pre-census operations and activities that affect LQ universe status, including unit identifier corrections and/or deletes.	Potential children boxes for this box are: 1. Define group quarters (gq) enumeration 2. GQ advanced visit. 3. Evaluations
Prepare for Estimation	This is the process that gets the evaluations and experiments sample response data ready to produce estimates. This activity includes applying sampling weights, conducting weight trimming, adjusting for unit non-response, item and status imputation, and doing any data recoding and data preparation necessary to form estimates. For evaluation data, this includes using alternative methods such as alternative missing data models.	
Prepare/Produce Unedited Records	The process by which the Census Bureau determines the appropriate unit and person records within geographic levels to include in the census universe. This includes processing that applies rules for kills, keeps, and unclassifieds (i.e. count imputations).	

Name	Description	Notes
	This activity organizes retained persons into the census LQs. This was formerly known as Hundred percent-unedited file (HCUF) formation.	
Print Public Use Forms	As appropriate, this is the process by which public use forms are printed, labeled, assembled, packaged, and distributed. This includes the first mailout/mailback operation as well as subsequent printing and mailout operations. This includes assembling packages for distribution, both bulk and address specific. Some of these activities may be performed in-house and/or outsourced.	
Print and Distribute Public Use Forms	The process by which all the Public Use Forms are printed and distributed.	
Produce Data Products	This is the process by which data are tabulated, reviewed/cleared, and distributed to the public. This also includes relevant metadata.	
Produce Estimates	This is the application of the estimation models. This includes assigning data to estimation domains (post-strata), applying estimation methods (e.g., dual system, synthetic, ratio estimation methods), producing estimates of sampling variance. For evaluation data, this includes using alternative estimation models and assumptions. The Geographic Framework is used to post-stratify samples for tabulation.	
Produce Estimates and Reports	This process produces reports and other data products for the coverage measurement, evaluation of coverage measurement, census evaluations, and census experiments emanating from the 2010 Census. This includes production of the statistical estimates, analysis of data, preparation of the report, and approval of the report. Producing the statistical estimates requires the following types of activities: application of sampling weights, imputation, non-interview adjustment, forming estimation domains, and estimating variances.	
Produce Evaluation Reports and Other	This is the process of analyzing the results of the census evaluations, census experiments, coverage measurement, and coverage measurement evaluations.	

Name	Description	Notes
Products	This culminates in products such as written reports, presentations, and other data products used for research and future planning. This includes the possibility of graphic products.	
Produce Information for the LUCA Appeals Process	This is the process that produces the required information for the Office of Management and Budget (OMB) designated agency that conducts the Local Update of Census Addresses (LUCA) Appeals process. This determines those rejected addresses to be included as part of the Census.	
Provide Community - Based Respondent Assistance	The process by which respondents obtain help locally to complete answers to census questionnaires and receive census information. This is primarily walk-in assistance to a questionnaire assistance center. These centers provide language assistance, non-ID forms, and other census information. This is a touchpoint with the American Community Survey (ACS) to ensure consistency in response to short forms items and to explain the presence of ACS during the Census.	
Provide LUCA Feedback	This provides the feedback to the Local Update of Census (LUCA) participants, as a result of the Address Canvassing showing the disposition of their suggested updates.	
Provide Nationally - Based Respondent Assistance	The process by which respondents obtain answers to questions about the census and can request census materials. Modes include written, internet (including email), telephone operator assisted (includes both call center and census bureau staff), prerecorded telephone help, and telephone device for the deaf (TDD). Respondents can request an in-language form and/or guide, a non-ID form, and/or a replacement form. This includes addressing and mailing these forms and/or responses to questions. Respondents requesting assistance in completing the questionnaire are referred to a telephone interviewer. This is a touchpoint with the American Community Survey (ACS) to ensure consistency in response to short forms items and to explain the presence of ACS during the Census.	
Refresh LQ List	This activity updates the LQ list using the latest	

Name	Description	Notes
from Administrative Sources	information from administrative sources such as the U.S. Postal Service (USPS) and GQ Administrative Records. This includes the identification and gathering of information from administrative records and other sources to identify additional GQs (this also includes service based enumeration (SBE) locations). This activity includes matching and unduplication with the existing LQ list and assigning spatial references. It identifies LQs requiring determination of a spatial location. This includes any status information from the USPS or other processing. This includes the process to assign complete spatial references to street addresses with incomplete spatial references. In an office setting, this is a computer-assisted process that determines the spatial location of a basic street address using a variety of source material.	
Release Staff	The process by which the Census Bureau terminates employment for temporary personnel and implements the Human Resource plan to staff down decennial permanent personnel.	
Resolve Count Questions	This is the administrative review process that handles external challenges to particular official census counts of housing units and group quarters population received from state, local, and tribal officials of governmental entities. This also handles internal count resolution issues. This activity corrects boundary errors in the geographic framework, geocoding errors in the living quarters list, and LQ coverage errors. This includes producing revised housing unit and/or population counts at the block level. This was formerly known as Count Question Resolution (CQR).	
Resolve Person and LQ Linkage	This is the automated process by which the Census Bureau analyzes and assigns final person status for multiple responses both within living quarters to determine the correct composition of that LQ. This includes the resolution of multiple person and unit enumerations. This activity also includes the process known as PSA (Primary Selection Algorithm) which includes identification and unduplication, as well as the resolution of the external non-ID adds which were found	

Name	Description	Notes
	to be fabricated responses.	
Review and Clear Data	The process by which data are examined, errors are noted for correction, and cleared for subsequent processing. Data are reviewed for reasonableness and confidentiality protection, as well as for consistency with historical and demographic data, and other data products. This includes the Full Count Review operation.	
Review and Clear Estimation Data, Results and Reports	The process by which the coverage measurement, evaluation, and experimental data; estimation results, analysis reports, and other products are reviewed and cleared for subsequent processing or release. This includes reviewing the data for correctness and reasonableness, as well as for consistency with historical and demographic data, and other data products; assessing the appropriateness of the estimation methodologies; ensuring the appropriateness of analysis and conclusions; and noting errors to be corrected and modifications to methodologies. This also includes review of the data presentation on the Internet, CD-ROM/DVD, or other media.	
Review and Clear Products	The process by which data files and geographic products are examined, errors are noted for correction, and cleared for public release. Data are reviewed for reasonableness, as well as for consistency with historical and demographic data, and other data products. This also includes review of the data presentation on the internet, CD-ROM/DVD, or other media.	
Revise Budget	This is the process for revising costs based on current high-level requirements, assumptions, and parameters. These costs initially are used for the budget submission and later are revised in greater detail based on feedback from the department, the Office of Management and Budget (OMB), and Congress, and the results of further planning and testing. This is a touchpoint with the American Community Survey (ACS) and MAF/TIGER.	
Revise Detailed Budget	The process for identifying and revising costs associated with every explicit operational component, assumption, parameter that contributes to the ten-year cost of the 2010 Census.	
Solicit and Receive Updates from LUCA Participants	This is the process of inviting governments to participate in the Local Update of Census Addresses (LUCA) and providing them with the map and address materials. This also includes receiving the updated materials from local participants. This incorporates the	

Name	Description	Notes
	update of both the LQ list and the geographic framework information. This process also includes recording data about participants and participation.	
Standardize and Organize Response Data	This transforms responses from all modes, on a form basis, into a single, consistent data format, as well as organization of the response data by census identification, date, and source of response, etc, in preparation for resolving multiple enumerations. This process includes merging of write-in codes with the appropriate form and person response data.	
Test New Methods	This is the process of evaluating and testing processes, procedures, and technologies for meeting the goals and objectives of the 2010 Census.	
Update Census Address Frame	These are pre-Census Day activities designed specifically to update the living quarters and spatial frameworks, including the Local Update of Census Addresses (LUCA), New Construction, Group Quarters Validation, and Address Canvassing.	
Update Geographic Information	This is the Geographic Framework updated with the processing of source boundary and feature information. This includes entering the updates into the geographic repository and applying edits.	
Validate Geographic Boundary Information	This is the Geographic Framework updated by working with participants to validate the correctness of insertion of the source information into the Census Bureaus repository. This corrects any errors identified. This includes 2010 Boundary Validation Program.	
Validate and Acknowledge All Response Data	This is a process to verify the data integrity of all incoming respondent information. This includes validation of the data associated with each census identification number by source and universe. This also includes the process of informing the source that valid data were, or were not, received. This process also updates the status to report the receipt, acceptance, and storage location of validated data.	

List of ICOMs and Definitions as of October 3, 2003

Name	Purpose	Notes
2000 Master Activity Schedule	The final, detailed time frame to allow conducting of the 2000 Census activities and operations. This includes relationships and dependencies between activities.	
2010 Census Baseline	Benchmark of the 2010 baseline design for the major components and parameters for the 2010 Census, including specific operational assumptions. This is a touchpoint with the American Community Survey (ACS) and the MAF/TIGER.	
2010 Census Design	This is the final 2010 Census design for the major components and parameters for the 2010 Census, including specific operational assumptions. This is a touchpoint with ACS and MAF/TIGER.	
ACS Commuter Flows	Commuter data provided by the American Community Survey (ACS) indicating workers that live in one county and commute to another for work.	
Acknowledgement	This is the response to the data source that the data were either valid or invalid.	
Acknowledgement - Paper GQ Forms	This is the confirmation of receipt of paper GQ forms, on a form basis, from field offices to data center locations. This acknowledgement should include which GQ the form originated from.	
Administrative Boundaries	These are boundaries of School districts, Traffic Analysis Zones (TAZs), Urban Growth Areas (UGAs), Alaska Native Regional Corporations (ANRCs), voting districts, state legislative districts, congressional districts.	
Administrative Records	These are various sets of data acquired from federal, state, and local governments, and nongovernmental institutions and organizations. These data are used to implement various census and intercensal programs, operations, and activities. They are used to support demographic analysis estimates, coverage and content evaluations, and to augment the living quarters framework. These data also may be used for coverage improvement. Federal sources include the National Center Health Statistics (NCHS), the Internal Revenue Service (IRS), the Social Security Administration (SSA), and the Center for Medicare and Medicare Services	

Name	Purpose	Notes
	(CMS). Other sources include advocacy and/or interest groups, National Associations, and local partnerships.	
Administrative Records - Overseas	These are Federal and other mail list of Americans living overseas.	
Administrative and Utility Applications	This is the software that provides for the payroll, reports, utility, security, assignment management, and personnel. This includes transmission utilities. For the MCD, this includes Global Positioning System (GPS) software.	
Advisory Committees Recommendations and Advise	These are the advisory committees that provide recommendations affecting the design, conduct, and products of the Census.	
All Government Units	Potential Universe of Local and Tribal Governments as defined by the Address List Improvement Act. Universe of the all potential governmental units that could participate in LUCA (Geographic Programs Participant System (GPP)).	
Applicant Information	This is the information provided to the Census Bureau and / or contractor by applicants for temporary positions. This may include resumes, references or other personal data.	
Architecture - Baseline Logical	The baseline 2010 Census Logical Architecture. This is an iterative process. This is a touchpoint with ACS and MAF/TIGER.	
Architecture - Final Logical	The final 2010 Census Logical Architecture. This is a touchpoint with ACS and MAF/TIGER.	
Architecture - Framework	This is the logical structure for classifying and organizing the complex information and processes of the 2010 Census.	
Architecture - Physical	A representation of objects currently deployed, or contained in design specifications for future deployment, in the domain using a specific technology. The modeling at this level is dependent on the operational technology acquired and implemented. For example, if relational database technology were chosen, this would be a model of the table structure required to support the logical data model in a relational-style model. In an object oriented notation, this would be a class-hierarchy /association style model.	

Name	Purpose	Notes
	This is an iterative process.	
Architecture - Roadmap	The Architecture Roadmap serves as a guiding framework in the development and evolution of the Architecture at the Bureau of the Census. Like the interstate maps used for travel, the Roadmap draws the major routes between origins and destinations, marking major landmarks along the way. As with the interstate map, the Roadmap contains a legend, identifying the key features and scale. As the interstate map is used as a tool to plan a journey, the Roadmap focuses on establishing a starting point, laying out the course of travel, and defining the destinations. The Roadmap is not a project plan, but rather a long-term planning tool. It identifies the long-range destinations while establishing checkpoints along the way. Using this structure allows the Census to concentrate on the near-term successes, without losing sight of the long-term goals. To facilitate the iterative development of the Architecture, the Roadmap: --Outlines the strategy, intended use, and scope of the Architecture --Identifies the key products used in the Architecture --Defines mechanisms for establishing and maintaining the Architecture --Lays out the high-level schedule and milestones to achieving success with the Architecture	
Architecture Tool	This is the mechanism(s) used to produce an Architecture work product. A tool could be as generic as a word processing application or as specific as an Architecture modeling and repository package.	
Assessments	This is documentation that analyzes previous Census operations with judgments about their effectiveness and recommendations for improvements in the next Census.	
Assistance System	This is an Internet and telephone services system that supports answering respondent inquiries and	

Name	Purpose	Notes
	fulfilling requests.	
BOC Documentation for LUCA Appeals Board	Census Bureau documentation describing why the Census Bureau has not included appealed addresses in the Census process.	
Background Check Information	These are the results of background checks conducted by the FBI	
Budget - Refreshed	The revised detailed budget that reflects current information and changes against the baseline.	
Budget - Revised	This is the revised cost based on current requirements, assumptions and parameters. These costs initially are used for the budget submission and later are revised based on feedback from the department, OMB, and Congress. This is a touchpoint with ACS and MAF/TIGER.	
Budget - Revised Detailed	These are the costs that are updated periodically based on new and improved information. They are associated with every explicit operational component, assumption, and parameter that contributes to the ten-year cost of the 2010 Census.	
Budget Process	The process of creating, monitoring, and updating the budget for the 2010 Census.	
Bulk Forms and other PUFs	These are primarily non-labeled forms that are not delivered by United States Postal Service. All these forms are received by NPC for further packaging and distribution. This includes military and shipboard forms, be counted forms, and GQs. It also includes all forms sent to QACS and fulfillment centers.	
CAMS	The Commerce Administrative Management System is used to submit and manage the budget.	
CM Sample Design Information - Initial	This reflects the initial sampling of geographic areas. This includes all actual sampling related parameters, stratification variables, and measures of size, selection probabilities, and others.	
CM Sample Design Information Refreshed through Final HU Activities	This information tracks the history of various coverage measurement sampling activities for sample areas. This includes all sampling related parameters, stratification variables, and measures of size, selection probabilities, and others. This reflects the new data resulting from the second Targeted Extended Search Sample.	
CM Sample Design Information Refreshed through HU	This information tracks the history of various coverage measurement sampling activities for sample areas. This includes all sampling related parameters, stratification variables, and measures of size,	

Name	Purpose	Notes
	selection probabilities, and others. This reflects the new data resulting from the sub sampling of geographic areas, and the P-Sample and TES area identification.	
CM Sample Design Information Refreshed through Person Matching	This information tracks the history of various coverage measurement sampling activities for sample areas. This includes all sampling related parameters, stratification variables, and measures of size, selection probabilities, and others. This reflects the new data resulting from the identification of the E-Sample.	
CM Spatial Information - through Initial HU Operations	This is the independent spatial information for coverage measurement with corrections, additions, and deletions to geographic features identified by initial HU operations. This includes meta data. This includes CM sample areas and rings, global positioning system coordinates for added features and coordinates and control IDs for coverage measurement HUs. This is independently maintained for coverage measurement.	
CM Spatial Information - through Person Operations	This is the independent spatial information for coverage measurement with corrections, additions, and deletions to geographic features identified through person operations. This includes meta data. This includes CM sample areas and rings, global positioning system coordinates for added features and coordinates and control IDs for coverage measurement HUs. This is independently maintained for coverage measurement.	
COTS Products	Commercial Off-the-shelf software that may be customized for census use.	
Census Administrative Systems	The temporary automated systems to provide various kinds of logistical and administrative support. This includes payroll, personnel, logistics, recruiting, applicant name check, selection and testing. This provides for a bi-directional transfer of data between various locations. This also includes non-field systems to support decentralized sites such as data capture centers, telephone centers, etc.	
Census Bureau EA	This is the Census Bureau's overall Enterprise Architecture. The 2010 Census EA will be compatible and provide additional detail to the	

Name	Purpose	Notes
	Census Bureau EA.	
Census Bureau Policies	The U.S. Census Bureau develops and implements specific policies to ensure as complete and accurate a census as possible, and to ensure the confidentiality of the data it collects as required by Title 13.	
Census Units in CM Sample Areas	This is the set of all census housing units and group quarters in coverage measurement sample areas and surrounding rings. This includes the identification of the E-Sample housing units.	
Check In Status (HU)	Determination of receipt of a return for all eligible housing units. This will include reverse check-ins that will result in an undoing a check-in, which can be done for blank forms.	
Cleaned-Up Person and LQ Info	Person and LQ information after unduplication keeps, kills, and unclassified imputation. Note: Includes all response data and all control and operational data required.	
Collection Geography	The Census Bureau divides the nation into sections (called blocks) based on geography for the purposes of data collection. These collection blocks are assigned to enumerators for the various census data collection operations.	
Congressional Legislation and Direction	The Congress of the United States of America will provide direction and legislation affecting the design and conduct of the Census.	
Contact Strategy	These are the specific requirements that define how we communicate with the public when deploying our mailing package and the response options. These assure that each contact with the public contains effective messaging about their response options, effective messaging and appropriate use of the advance letter, reminder, replacement mailing, and messaging that maximizes a timely response.	
Content	This is final questionnaire and public use form content after OMB clearance and congressional approval.	
Contract Management (not referenced)	All processes, procedures, and tools required to manage all acquisitions.	Contract management is being depicted where it was done

Name	Purpose	Notes
		in 2000 (5/13/03).
Correspondence System	This is the process by which responses to external correspondence is managed and controlled.	
Cost Model	This is the cost model for Census 2010. The primary tool for documenting and analyzing budgetary resources needed to support program requirements. It contains assumptions and parameters used to describe and analyze the budget components. Decennial Management Division (DMD) updates the Cost Model on a periodic basis.	
Count Resolution Feedback	This is return correspondence to the Highest Elected Official (HEO) and census initiators describing the results of the Count Resolution.	
Count Resolution Microdata	This is the Census microdata updated with the results of the count resolution process. This includes the status data from count resolution processing.	
Count Resolution System	This is the system that controls, revises counts and boundaries, and produces final certification.	
Coverage Measurement Evaluation Data	This is an assortment of data that are the result of using various evaluation methods to re-enumerate, reprocess, or collect additional data required to assess the person and housing unit coverage measurement program.	
Coverage Measurement Evaluation Results	This is an assortment of products that aid in providing information about the quality of the person and housing unit coverage measurement results.	
Coverage Measurement Housing Unit Estimation Results	This is an assortment of products that measure the housing unit coverage in the census and the accuracy of those estimates. Major products include the dual system estimates, synthetic estimates, post-stratified sample data, and estimates of sampling variance.	
Coverage Measurement Initial Housing Unit Results	This data is the results of matching the independent housing units to the census housing units in the final Coverage Measurement sample areas. Includes all applicable match and follow-up status information as well as within-cluster subsampling information (i.e., large block subsampling) to identify the P-Sample housing unit for which coverage measurement data is collected, and to support the E-Sample housing unit identification and final housing unit activities. This includes all independent housing units confirmed to exist as of follow-up interviewing as well as all census housing units in the sample areas regardless of match and follow-up status (i.e., includes census units	

Name	Purpose	Notes
	classified as correct or erroneous including geocoding errors).	
Coverage Measurement Person Estimation Results	This is an assortment of products that measure the person coverage in the census and the accuracy of those estimates. Major products include the dual system estimates, synthetic estimates, control-rounded and post-stratified census person information, post-stratified sample data, and estimates of sampling variance.	
Coverage Measurement Sample Areas	These are the selected geographic areas (one or more collection blocks) for which an independent address list is created. This includes the surrounding ring of blocks.	
Data Capture System	The hardware and software to process all paper questionnaires from receipt to output, including coding, as electronic formats.	
Data Collection and Assistance Instruments	This includes all application software for the specific purpose of collecting respondent information and collecting address information including geographic coordinates. This specifically includes the software used on the mobile computing device (MCD), interactive voice response (IVR), Internet, Computer Assisted Telephone Interviewing (CATI), outbound calling, Telephone Questionnaire Assistance (TQA), and Internet Questionnaire Assistance (IQA). This includes the format for the output. This does not include assignment management, payroll, and administrative applications.	
Data Preparation System	The system of software routines and products that performs functions necessary to receive, organize, and process response data into an accurate, complete, and reliable set of tabulatable final census records. This system processes respondent data from the various collection modes and sources. In conjunction with universe selection results, the DPS controls the receipt and processing of data through validation, follow-up editing, general coding, unduplication, and data standardization. Respondent data is organized with links to, and eventual merger with, the Universe and Control System's [UCS] control, operational status, and Census LQ information. The merged Respondent and Universe Selection Data are post conversion processed through several activities, including consistency editing, tabulation recoding, missing data, disclosure avoidance and conversion to	

Name	Purpose	Notes
	tabulation geography.	
Data Tabulation and Dissemination System	The system of software routines that performs functions necessary to tabulate demographic product, and provides the demographic and geographic data to the public. Includes all modes of distribution.	
Data User Group Recommendation and Advise	These are interest groups who provide recommendations affecting the design, conduct, and products of the Census.	
Demographic and Geographic Products - Disseminated	These are the products and systems that are being disseminated via various media and to various audiences. This may include supporting documentation. Includes archives to NARA and provision of products to redistricting customers.	
Demographic and Geographic Products - Final	These are the products and systems that have been cleared for dissemination processing.	
Disclosure Review Board (unreferenced)	The Disclosure Review Board (DRB) ensures that the Census Bureau protects Title 13 respondent confidentiality. The DRB serves as the focal point for issue identification, research coordination, and policy development on issues related to disclosure limitation regarding the public release of all data products. It provides a mechanism for a comprehensive and consistent approach to disclosure limitation in tabulations, microdata, and statistical products to ensure respondent confidentiality. The DRB reviews and clears all Bureau microdata and tabulation releases under its purview for confidentiality.	
Electronic Self-Response System	The automated systems to control, manage, and support the collection of electronic self-response data, i.e. Internet and IVR. Provides for interaction with the respondent.	
Electronic Status, Coded Respondent and LQ Data	Electronic Status, Coded Respondent and living quarter updated respondent data that is digitized with a disposition and categorized data for the living quarter.	
Employee Compensation	This is the total compensation to an individual employee based on hours worked or salary, travel expenses, and other miscellaneous expenses. This is analogous to a paycheck.	
Employee and Respondent Qualitative Data	This is the information solicited from employees, respondents, and others regarding their attitudes, perceptions, judgments, and recommendations about	

Name	Purpose	Notes
	aspects of the census process. This includes activities such as focus groups, questionnaires, close out reports, debriefing, diaries, and respondent correspondence.	
Estimation System	The system of software routines that perform functions necessary to generate estimates and associated estimation products from a sample of data. Includes generating estimation weights, applying missing data techniques, forming estimation domains, applying estimation methods including controlled rounding algorithms, computing variances and generating appropriate review materials.	
Evaluation Quality Assurance	This is the process, protocols, and standards that are applied to all phases and activities of evaluation and experimental programs to assure that findings produced are of high quality.	
Evaluation and Experimental Estimation Results	This is an assortment of products that inform the quality of the census as well as the results of conducting the census experiments.	
Evaluation and Experimental Information	These are the measurements, both quantitative and qualitative, used to assess various census programs, activities, and data. Measurements include cost, quality indicators, schedule, performance characteristics, and qualitative data, such as attitudes and subjective judgments. This does not include coverage measurement. This includes evaluation and experimental response information such as content re-interview and master trace sample.	
Evaluation and Experimental Reports and Products	This is the information that will inform the quality of the current census and planning of future censuses.	
Evaluations (Under Construction)		
External Voice Telecommunication Infrastructure	This supports the external voice communications, including both in-bound and out-bound telephone operations (e.g., 800 services, touchtone data entry - TDE).	
Extract of Universe and Respondent Data and Status	This is a subset of the complete set of response data and universe determination and status information from the census, based on the specified requirements for using the information.	
Extracted Questionnaire Images	This is a subset of the census questionnaire images required for coverage measurement matching and other various programs such as evaluations and	

Name	Purpose	Notes
	analysis.	
FEDEX	Federal Express	
FSCPE Members	The Federal-State Cooperative Program for Population Estimates (FSCPE) is an organization composed of state demographers that, since its inception in 1973, have worked with the Census Bureau to ensure accurate state and local population estimates. The members who participate in the Full Count Review program aid the Census Bureau analysts by identifying, investigating, and documenting suspected data discrepancies or "issues" in order to clear census data files and products for subsequent processing or public release. They are sworn Census Bureau employees.	
Facilities	These are the physical buildings and infrastructure, ready to do the business of the census.	
Facility Status Information	This is the information to manage the acquisition, operation and close-out of the temporary facilities.	
Federal Legislation	The U.S. Constitution provides authority for the conduct of the decennial census every ten years to reapportion seats in the U.S. House of Representatives among the states. Specific statutory authorities for the conduct of the decennial census and related data collection activities are found in Title 13 of the United States Code, which stipulates that the tabulations of population reported to states and localities for purposes of redistricting be produced and transmitted to the states by April 1 of the year following the decennial census. Title 13 also requires that census records be used solely for statistical purposes and makes these records confidential, providing for harsh penalties for those who wrongfully disclose this information. Other legislation mandates specific ways in which the census must be conducted or in which census data must be tabulated and disseminated. For example, legislation mandates sharing of the census address list with local and tribal governments.	
Federal Register	The Federal vehicle for soliciting comments and notifying the public and interested stakeholders about policies, plans, and methods.	
Federal Regulations and Policies	General laws relating to Federal agencies also affect the conduct of the census. For example, under the terms of the Paperwork Reduction Act, the Office of Management and Budget (OMB) issues	

Name	Purpose	Notes
	implementing regulations requiring their review of the decennial census questionnaires to ensure that respondent burden is kept to a minimum. OMB also makes determinations regarding the race and ethnicity categories for which the Census Bureau must gather data used for the purposes of redistricting. In addition, specific rules relating to the conduct of the decennial census are occasionally issued by the Department of Commerce. This includes rules to codify the procedural framework for the determination regarding the methodology to be used to produce the tabulations of population reported to states and localities.	
Field Operation Systems	The automated systems to control, manage, and support the various field operations and manage the field staff. This includes mobile computing devices (MCDs), staffing authorization, and data collection management. This provides for a bi-directional transfer of data between various locations. This includes the capability to adjust predefined assignment areas as needed. It includes MCD transfers.	
Final Census Design	Establish final design components and parameters for the 2010 Census.	
Final Census Microdata	The complete set of census records and characteristics, which reflect the results of necessary disclosure avoidance, tabulation recodes, and tabulation geography. Includes the provision of data to NARA.	
Final Edited LQs and Person Characteristics	Final edited LQ and person characteristics data having resolved inconsistencies, completed missing characteristics, and substitutions of neighboring entire person/unit characteristics. The complete set of spatially reference census records and characteristics, which reflect the results of necessary imputation, allocation, and substitution.	
Final Tabulation Boundaries	Final boundaries to be tabulated during 2010 Census except for blocks and those areas based on tabulation blocks.	
Final Unedited Census LQ and Person Records and Counts	Final universe of LQ and person characteristics data, organized spatially. These data have not been edited to correct for inconsistencies or fill in missing characteristics. Kills, keeps, and unclassified have been processed (i.e. count imputations).	
Follow-up Enumeration	These are the cases or units that need to be followed	

Name	Purpose	Notes
Status and Respondent Data	up for various field and telephone operations. This is the response data needed to perform the operations. This is done per individual census identification number.	
Form Criteria	These are the criteria for what form to use, what data gets placed on the forms, and how it is eventually distributed. This includes language form type.	
Form Type and/or Label Information	Information necessary to prepare, label, package, and distribute the appropriate PUFs. This includes all variable information, including that information needed for experiments and some evaluations that is unique to the address.	
Forms Design Tool	This is the tool that produces and controls the electronic image required to print public use and other forms using computer-assisted methods to design and format.	
Fulfillment	These are materials and/or responses provided to satisfy respondent inquiries.	
Full Cycle Budget	These are the ten-year costs, along with associated assumptions and parameters, for the activities required to plan and conduct the 2010 Census.	
GIS Tool	This is a system for managing, analyzing, and applying geographically referenced data.	
GQ Administrative Records	This is the information provided by secondary sources (both local and national) where GQ enumeration might be undertaken. For instance this includes national or local lists of college dorms, prisons, and SBEs.	
Geographic Framework	The latest available spatial and geographic data.	
Geographic Framework Refreshed by Additional Household/Person Follow-up	This is the Geographic Framework updated with additions, corrections, and deletions to geographic features and their attributes from additional household and person follow-up operations. This includes features and living quarters coordinates with identifiers.	
Geographic Framework Refreshed by Address Canvassing	This is the latest available spatial and geographic data updated with corrections, additions, and deletions to geographic features, identified by address canvassing. This includes meta data. This includes global positioning system coordinates for added features.	
Geographic Framework	The latest available spatial and geographic data	

Name	Purpose	Notes
Refreshed by Administrative Sources	updated from administrative sources. This includes USPS delivery data: ZIP codes and plus 4 codes. This also includes processing status information.	
Geographic Framework Refreshed by Boundary Information Validation	This is the Geographic Framework updated with the validated boundary information.	
Geographic Framework Refreshed by Count Question Resolution	This is the geographic framework updated with the boundary corrections identified by the Resolve Count Question activity.	
Geographic Framework Refreshed by GQ Enumeration	This is the Geographic Framework updated with additions, corrections, and deletions to geographic features and their attributes from GQ Enumeration operations. This includes features and living quarters coordinates with identifiers.	
Geographic Framework Refreshed by GQ Validation	The latest available spatial and geographic data updated from GQ Validation. This also includes processing status information.	
Geographic Framework Refreshed by LUCA	This is the Geographic Framework updated with corrections, additions, and deletions to geographic features identified by local participants.	
Geographic Framework Refreshed by Legal, Statistical and Admin. Geography	Geographic areas required for the delineation of initial geography using state, county and American Indian Areas, and the like. Note: feeds the delineation / development of collection geography and other needs for preliminary geographic areas. Used for new construction, status reporting.	
Geographic Framework Refreshed by New Construction	The Geographic Framework reflecting additional streets identified by new construction participants. This includes associated meta data.	
Geographic Framework Refreshed by Update/Leave	This is the Geographic Framework updated with corrections, additions, and deletions to geographic features, identified by Update/Leave. This includes meta data. This includes global positioning system coordinates for added features.	
Geographic Framework Refreshed by Whole Household Interviews	This is the Geographic Framework updated with additions, corrections, and deletions to geographic features and their attributes from whole household interview operations. This includes features and living quarters coordinates with identifiers.	
Geographic Framework Refreshed by ZCTAs	This is the geographic framework updated with the 5 and 3 digit ZCTA (ZIP Code Tabulation Areas) boundaries.	

Name	Purpose	Notes
Geographic Framework Refreshed with Redefinition of Metropolitan Areas	This is the geographic framework updated with the final definition of metropolitan areas based upon the 2010 decennial census. This is a touchpoint with ACS	
Geographic Framework Refreshed with Tabulation Blocks	This is the geographic framework updated with the final tabulation blocks and spatial data.	
Geographic Framework Refreshed with Urban/Rural Definitions	This is the geographic framework updated with the urban clusters and urbanized areas at the block level.	
Geographic Framework with Collection Geography	Geographic Framework with all geography necessary to undertake the census. Includes all the spatial information such as attributes, geographic entities, and so forth.	
Geographic Framework with Final Tabulation Geography (Except Blocks)	This is the Geographic Framework updated with the final boundaries to be tabulated for the 2010 Census, except for blocks and those areas based on tabulation blocks.	
Geographic/Address Reference Materials	Information retrieved from Local and Tribal governments or other sources showing the locations of LQs and non-LQs along with their addresses and related roads and street features.	
HU E-Sample Outcome Data	This is the sample census HUs with final match status after the final HU matching. This is used for HU estimation.	
HU P-Sample Outcome Data	This is the independent HU data with final match codes after final HU matching. This is used for HU estimation.	
Hardware Systems for Facilities	These are the devices and associated peripherals that have been tested and accepted. This includes the computer with operating systems and other necessary equipment to collect and process data. Examples include printers, scanners, routers, key stations, server farms, sorters, shredders, and other add-ons. This includes all internal voice and internal and external data communications.	
Highest Elected Official Correspondence	This is a request for the Census Bureau to review block level data where there may be a census count discrepancy submitted by the Highest Elected Official (HEO) for that functioning governmental unit. This can include electronic correspondence. This also includes supporting documentation.	

Name	Purpose	Notes
IT Systems - Production Ready	Systems necessary to manage and support all phases of the Census. This includes specific applications designed to support each operation.	
IV&V of Methodologies	Independent verification and validation of methodologies. [Revise]	
IVR (Under Construction)	Interactive voice response (IVR). Questionnaire responses captured via Internet voice response.	
Image and Data Retrieval System	This is the system that manages storage and retrieval of all questionnaire images and/or ASCII representations, form status, and LQ status for various purposes. Provides the ability to perform ad-hoc queries and extracts either by data and/or geographic attributes.	
Images for PUFs	The electronic image for printing paper copies of all public use forms. They are formatted in a manner that meets all census-approved requirements for processing and collection. An example is a PDF document.	
Internal Correspondence	This is a request to review block level data where there may be a census count discrepancy submitted by Census Bureau personnel. This also includes supporting documentation.	
Kits - Non MCD	A collection of tools and materials to be used by an individual data collector, data capture operator or facility, except MCD Kits.	
Kits for MCD - Production Ready	This is the package that contains the computer with all applicable software, including the instruments. This includes all specific equipment and instructions needed to operate the device.	
LQ Data	The latest available LQ data that is spatially referenced. This is the universe as defined by the controls acting upon it. This contains the sum of all status information to date. This is the initial list of census units as well as one or more refreshments by the Delivery Sequence File (DSF) and possibly other sources.	
LQ Data - Address Updates	Changes to the Living Quarter inventory that have a spatial reference sufficient to locate the unit. Can come from address canvassing, LUCA or other field operations. The living quarters data has been reviewed to provide corrections, additions, and deletions to the list of LQs and their attributes. For example coordinates, address (to the LQ universe)	

Name	Purpose	Notes
	and group quarters and housing unit classification. This is the output of address list compilation operations. Includes all status or operational information.	
LQ Data - Non-ID	Responses from living quarters with no known Census ID. This also includes everything with temporary processing census identification numbers and includes returns from all collection modes without a census identification number.	
LQ Data Refreshed By GQ Enumeration	LQ List updated with the spatially referenced adds, deletes and corrections from the GQ Enumeration operation. Also includes status from GQ Enumeration processing. The adds will have temporary IDs.	
LQ Data Refreshed By Update/Leave	LQ List updated with the spatially referenced adds, deletes and corrections from the Update/Leave operation. Also includes status from Update/Leave processing. The added records will have temporary IDs. These changes are also applied to the Prepare Updated Universes. MAF/TIGER Touchpoint.	
LQ Data Refreshed by Address Canvassing	LQ List updated with the spatially referenced adds, deletes and corrections from address canvassing operation. Also includes status from address canvassing processing.	
LQ Data Refreshed by Administrative Sources	The LQ list updated with the latest administrative address and location information. This also includes status from USPS processing. The LQ list includes both spatially referenced and non-spatially referenced LQs. Note: The data may not be completely spatially referenced to the lowest level of geography.	
LQ Data Refreshed by Count Question Resolution	The LQ frame updated with the spatially referenced adds, deletes, corrections, and LQ classifications from Count Question Resolution. This also includes status from processing.	
LQ Data Refreshed by GQ Validation	LQ List updated with the spatially referenced adds, deletes and corrections from the GQ Validation operation. Also includes status from GQ Validation processing.	

Name	Purpose	Notes
LQ Data Refreshed by LUCA	LQ List updated with the spatially referenced adds, deletes and corrections from the LUCA participants. Also includes status from LUCA processing.	
LQ Data Refreshed by New Construction	The LQ List updated with the spatially referenced adds from New Construction participants. Also includes status from New Construction processing.	
LQ Data Refreshed by Non-IDs	This is the living quarters data incorporating the results of the Non-ID process with a spatial reference, partial or no spatial reference assigned to the frame.	Some things cannot be given a census identification number because of time constraints and there is not enough data.
LQ Universe (Under Construction)	Collection of non-postal areas, post office boxes, special treatment cases, methods and areas attached to living units, identified universe for distribution and enumeration. Note: Use ICOM from A.5.3. Make sure it includes new construction.	
LQ Updates (Under Construction)		
LUCA Appealed Addresses	The Census rejected addresses appealed from LUCA feedback. The Appeals Board provides this information to the Census Bureau.	
LUCA Appeals - Resolved LQs	These are the spatially referenced additions, deletes, corrections, determined to be in the Census process from the Appeals Board.	
LUCA Feedback	This is the disposition of the adds, corrections, and deletes as a result of address canvassing. The feedback includes both accepted and rejected information. The rejects form the basis of the Appeals process.	
LUCA Participants	Those governments who agree to sign a confidentiality agreement to be included in the LUCA program.	
LUCA Participants Processing	The data transfers between LUCA participants and Census. Includes LUCA Participants updates that match Census data with Local Data, and LQs and Spatial Data. Includes the production of LUCA feedback products.	

Name	Purpose	Notes
Legal Boundaries	These are boundaries of states, counties, minor civil divisions, sub-minor civil divisions, incorporated places, Hawaiian Homelands, American Indian Areas, consolidated cities.	
Local & Tribal Governments Recommendations	These entities provide recommendations affecting the design, conduct, and products of the census.	
Logical Architecture	Logical Architecture extends understanding of the organization by modeling its constituent parts, and allowing analysis of the ways in which various processes function and interact. This directly supports the investigation and construction of extended, revised, or redesigned processes, which further the needs of the business.	
MAS - Refreshed	The revised detailed schedule that reflects current information and changes against the baseline.	
MCD Hardware and Peripherals	These are the devices and associated peripherals. Items include batteries, antennas, power cords, GPS receiver, etc. Also includes the computer with operating systems.	
Management Information	These are the operation specific cost, performance, progress summary reports. This includes earned value analysis results.	
Master Activity Schedule	The detailed time frame allowed to conduct decennial census activities and operations. This includes relationships, durations, and dependencies between activities.	
Matching System	This is the automated system to match multiple sets of information for any activity, e.g. the census and independent information. This includes a computer assisted matching capability as well as the ability to display images with spatial information that shows housing unit locations. This provides for the coding of the match status for person, address, and/or living quarters.	
Materials	These are the non-data-specific reference materials, procedures, training guides and materials, operational support forms (excludes PUFs), documentation for metadata, outreach and promotional materials, and initial coding dictionaries. These may be draft or final versions.	
Media Outlets	This is the population of all the electronic and print media that are candidates for census promotion and advertising.	

Name	Purpose	Notes
Media Programs	This is all advertising and special programs to promote and encourage participation and response to census operations. Includes media relations and press releases supporting data product dissemination.	
Metadata	These are the descriptions, documentation, definitions, and history of ALL census related data. These data will drive the development of all forms and instruments. This includes, but is not limited to, question wording, descriptions, interviewer response instructions, response categories, variable names, valid values, algorithms, legal requirements, and controls. This also supports demographic and geographic products.	
Metadata Refreshed by Product Creation	This is the Metadata with additions that describe the demographic and geographic products.	
Metadata Systems		
Metropolitan Area Criteria	The general concept of a metropolitan area (MA) is one of a large population nucleus, together with adjacent communities that have a high degree of economic and social integration within a nucleus. The MAs and the central cities within an MA are designated and defined by the federal Office of Management and Budget. Each MA must contain either a place with a minimum population of 50,000 or a U.S. Census Bureau-defined urbanized area and a total MA population of at least 100,000 (75,000 in New England). An MA contains one or more central counties. An MA also may include one or more outlying counties that have close economic and social relationships with the central county. An outlying county must have a specified level of commuting to the central counties and also must meet certain standards regarding metropolitan character, such as population density, urban population, and population growth.	
Milestones	Milestones represent points in time where key events or accomplishments need to occur. These have significant impact on planning, developing, and implementing the 2010 Census. This is a touchpoint with ACS and MAF/TIGER.	
NAS Recommendations	The National Academy of Sciences (NAS) provides recommendations affecting the design and conduct of the census.	
New Construction Data	These are the spatially referenced adds from the New Construction participants. This also includes streets	

Name	Purpose	Notes
	and street names.	
New Construction Participant Processing	The data transfer between participating governments and the Census Bureau.	
OMB	The Office of Management and Budget (OMB).	
Operational and Administrative Data	These are operational and administrative data from all systems supporting all operations such as electronic response, convert paper to electronic, validate and acknowledge, and includes other census support operations. This includes the Field Division employee unit transactions (e.g. hours, miles and other reimbursables) linked to the operation. The data are dependent on the specific operation and system requirements.	Goes to Data Warehouse. Very large amount of data.
Operations Specific Cost and Progress Data	This is cost and progress data for operations, evaluations, and management reports. Includes various cost information such as payroll, mileage, systems support, and the like.	This goes to the Data Warehouse in Infrastructure.
Overseas Mailing Addresses	The formatted electronic name, overseas mailing address, other information, and associated control and status information, for distributing overseas questionnaires.	
Paper Questionnaire	Decennial Census questions on a paper form.	
Paper Questionnaires - Returned	Paper questionnaires of all types with respondent information. This includes self-response mail returns, overseas, and group quarters, as well as blank returns. (Includes paper Be Counted forms.)	
Paper Questionnaires and Forms - Destruction	The materials that contain Title 13, privacy, and other information to be destroyed. This operation will conform to all security laws and regulations and environmental considerations. These materials will potentially come from data collection and processing activities performed in the Local Census Offices (LCOs), call centers, and data processing centers.	
Parameters and Assumptions	These are the workloads, productivity, and time that drives cost estimates. This includes staffing and organizational structures, pay rates, equipment cost, and space cost. This data is acquired from a variety of sources such as the past Census, testing and external sources of cost.	
Partner Information	This is the information about partners, e.g. name of the organization, contact, type, constituency, etc.	
Partnership Processing	These are the systems that process and maintain	

Name	Purpose	Notes
	information about partnership participation in various Census programs. The planning database is used for targeting Hard to Enumerate (HTE) areas and to identify areas for establishing QACs and Be Counted Sites.	
Partnership Program	This is the partnership/outreach program that works through a variety of national and local partners, including individuals, organizations, institutions, and governments, to promote awareness and participation among the constituencies of these partners.	
Person E-Sample Outcome Data	This is the sample census enumeration with final residency status after the final person matching. This is used for person estimation.	
Person P-Sample Outcome Data	This is the independent person data with final resident status and match codes after final person matching. This is used for person estimation.	
Planning Data	A nationwide database that assembles a range of housing, demographic, and socioeconomic variables. The database contains "hard-to-count" scores that summarize the attributes of each Census 2000 tract in terms of enumeration difficulty. Includes performance attributes from the previous census to current demographics from ACS. The database may be used to identify potential areas for language form distribution, special enumeration procedures, establish local pay rate, and to predict mail responses, that may be used to assist in determining field staff needs. This includes relationship of all planning data with geographic framework. ACS Touchpoint.	
Planning Procedures and Systems	The process including procedures and tools whereby the organizational structure, operating means, and guidelines are established and implemented for determining Census design and developing and managing operational requirements and parameters. This includes scheduling tools, reports generation tool, document management tool, and earned value tool.	
Print Systems	A means to print, label, and package documents. Sources may include contractor, Census, and GPO.	

Name	Purpose	Notes
	This includes printing other types of census forms, field-use and processing materials.	
Printed / Packaged MO/MB Forms	These are the printed and packaged Mailout/Mailback forms and related materials. These go to USPS sites. This includes advance letters and reminder cards. This includes overseas areas.	
Printed/Packaged U/L Forms	These are the printed and packaged Update/Leave forms and related materials. These are delivered directly to field sites.	
Production Ready Instruments	These are the instruments that are ready to collect data and assist respondents, e.g. Telephone Questionnaire Assistance (TQA), Interactive Voice Response (IVR), Computer Assisted Telephone Interviewing (CATI), and Internet.	
Progress Data from NRFU	This is progress data from NRFU by LCO used to determine the start of personal visit interviewing for coverage measurement.	
Promotional and Informational Materials	These are materials to further educate, inform, and motivate respondents about the census.	
Property Management System	The system that provides for inventory, control, and tracking of all reportable physical property.	
Questionnaire Images	These are images of the completed questionnaires suitable for retention by National Archives and Records Administration (NARA) and images required by various programs such as evaluations and analysis.	
Recommended Methodologies		
Request for Questionnaire - Overseas	These paper questionnaires include name, overseas mailing address, and other items. This information is provided by the householder requesting a questionnaire.	
Requirement Changes Approved	This is the approval of proposed changes to ten baseline requirements.	
Requirements - Consolidated Federal, Legal, Regulatory, and Policy	Consolidated Federal, Legal, Regulatory, and Policy requirements affecting the design and conduct of the census. Also, includes waivers from existing legislations, regulations, and policies as needed.	
Requirements - Detailed	These are the functional and non-functional requirements that describe what needs to be done in sufficient detail to design and prepare specifications for implementation and performance measures. These requirements include all necessary systems interfaces, criteria and dependencies, as well as security and	

Name	Purpose	Notes
	privacy considerations. These also include all applicable laws, regulations, and policies. Detailed requirements have traceability back to high-level requirements.	
Requirements - High Level	Based on the Final Census Design, these are the global statements of "what" needs to be accomplished to perform each Census activity.	
Requirements - Security and Privacy	These are the laws, policies, regulations that controls and govern the use of census data and employee data. This includes security and privacy standards.	
Requirements and Specifications Management Tool	This is the system that assists planning and management staff with documenting and managing all functional and non-functional requirements and specifications. This includes traceability of requirements and specifications through the lifecycle.	
Research Materials	These are records documenting the most recent census activities.	
Respondent Data and LQ Attributes	This is information collected during address canvassing that is used to assist subsequent operations. Examples include surname and telephone number.	
Respondent Inquiry	These are contacts by respondents for various types of assistance.	
Respondent LQ Data	Questionnaire responses provided by persons in the living quarters universe. For non-ID living quarters a temporary processing ID will be assigned awaiting the results of non-ID processing.	Merging back happens in clean-up person and LQ information.
Respondent Provided Information	Person and LQ characteristics provided by respondents using any mode (e.g. CATI, face-to-face) to be recorded on paper or an electronic instrument (e.g. IVR, Internet).	
Respondent Questionnaire and Status Data	Questionnaire responses provided for and by persons in the living quarters universe. For interviewer assisted enumeration, this includes specific universe and enumeration outcome. For self-response, this includes mode. Data are either collected in electronic form, or in the case of paper, converted. For living quarters without a census identification number, a temporary processing identification number will be assigned awaiting the results of Non-ID processing. The status includes enumeration, outcome population count, deletes, vacants, unit identifier corrections (if required), type of respondent, and data attributes.	Merging back of the census processing identification number MAF ID to the processing ID occurs in clean-up person and LQ information.

Name	Purpose	Notes
	Updates to the LQ List are contained in the respondent questionnaire and status data.	
Respondent Questionnaire and Status Data - Resolved	This information is the result of the application of the linkage rules for all person responses organized on a unit/ID basis. All person records are retained and marked as to whether they are eligible for inclusion/exclusion in the formation of LQs during further processing.	
Respondent Questionnaire and Status Data - Standardized and Organized	This information is the result of the transformation of responses from all modes, on a form basis, into a single, consistent data format, as well as organization of response data by census identification, date, and source of response, etc, in preparation for Resolving Person/LQ Linkages. This contains the results of the write-in coding.	
Respondent Questionnaire and Status Data - Validated	This is the result of having performed the validity check on the machine-readable output from all possible response modes. For living quarters without a valid census identification number, a temporary processing identification number will be assigned awaiting the results of Non-ID processing. Contains validity and status update information and links to the universe control data. For example, comparing output information to expected control universe information and identification and control of unexpected information.	
Review Comments/Clearance	This is a gate that allows data to flow to subsequent processes if it meets certain criteria. A review and clearance process that allows data processing and tabulation to move on to the next step only after subject matter analyst clearance. This includes whether the coverage measurement, evaluation, and experimental estimation information can move on to the next step, or whether modifications to the data, methodology, analysis, or other changes are needed or further review is required.	
Review Products	Demographic and geographic data organized and presented in a format designed specifically to facilitate subject matter analysts review and clearance. This includes all review products	

Name	Purpose	Notes
	associated with coverage measurement, evaluations, experiments, and estimates.	
Review System	The hardware and software necessary to manipulate and review products.	
Revised Certified Counts	These are new census population and housing unit counts for the governmental units. This includes errata, and may also include revised block level data.	
SAUS	The Spatial and Address Update System (SAUS) are systems that process spatial and address updates and maintain the spatial and address frame for the 2010 census. Processing includes updates to the features and boundaries, and matching addresses from various sources (USPS, LUCA, Census field operations, etc) with existing addresses, assigning permanent identifiers, keeping track of updated status information, and updating the spatial location information (including coordinates and geocoding). SAUS also has the ability to set universe eligibility for pre-census activities. This also includes the ability to produce maps and other geographic products used for both operations and data products dissemination.	
Scheduling Tool	Commercially available off-the-shelf-software scheduling tools used to schedule and conduct the 2010 Census.	
Second Mailing Criteria	These are criteria used to select eligible HUs for replacement mailing, including any language/and or form requirements.	
Software Development Tools	This is commercially available off-the-shelf software and/or custom software that enables the development of the automated software.	
Source Boundary Information	Statistical, legal and administrative boundaries acquired from participant programs, original source, or internal Census Bureau activities. Note: This includes attributes, identifiers, their effective dates, and relationships to other boundaries.	
Specifications	These are the instructions for the design and development of tools, materials, products, systems, applications software, processes, and interfaces. Specifications are traceable through detailed requirements to high-level requirements.	
Staff Information	This is all the necessary personnel and payroll information for employees assigned to an activity.	

Name	Purpose	Notes
	This includes all temporary census employees and contract employees. This does not include permanent census employees.	
Staff Information - Refreshed	This is all the necessary personnel information for administration and to support payroll operations for employees assigned to an activity. The data includes SSN, bank routing information, withholding, grievances, accident reports, unemployment compensation claims, EEO complaints, etc. This includes all temporary census employees and contract employees. This does not include permanent census employees.	
Stakeholder Suggestions	Guidance, advice, and recommendations provided by a variety of external parties with an interest in the conduct or products of the 2010 Census. This includes reviewed and approved recommendations from stakeholders for new and improved methods.	
Stakeholders	An individual or organization with a vested interest in Census Bureau operations and products.	
Statistical Areas	This includes Census tracts, block groups, census county divisions, census designated places, and statistical American Indian Areas.	
Strategic Plan	The Census Bureau strategic plan.	
Suggested Improvements	These are specific new and improved methods, procedures, and tools requiring testing in either special purpose or Census- like test environments to determine whether to incorporate them in the Census design. These suggestions are incorporated in the initial census design, evaluated thru the testing program, and modified based upon testing results.	
Targeted Extended Search Results	This is the result of TES fieldwork and is used for person and housing unit matching. This provides the status of whether the census unit in the TES workload was located in the CM surrounding ring of blocks, CM sample area, or outside the CM surrounding ring of blocks.	
Telephone Interview Referral	This is a request from respondents for an operator-assisted interview through use of a telephone (via IVR or TQA). This includes automated referrals from IVR based on edit or coverage conditions.	
Telephone Interview System	This is a telephone interview system that collects, manages, routes, and transfers respondent data.	
Testing Systems	These are all the various procedures, tools, IT systems, protocols, and standards necessary to	

Name	Purpose	Notes
	conduct and evaluate various special purpose and census tests.	
Testing Tools	These are the automated tools and processes used to validate and verify the performance of computer hardware and software systems and the validity of data output. This includes tools used for unit, system, independent, and user acceptance testing.	
USPS Data	Current business and residential address information and attributes (e.g. residential versus commercial, ZIP code, plus 4 code, carrier routes, vacant status) the USPS uses for mail delivery.	
Un-duplication Followup Status	These are the identification numbers and responses necessary to un-duplicate.	
Un-validated Source Boundary Information	The initial legal, statistical, and administrative boundaries that reflect insertion subject to validation.	
Undeliverable Mailing Packages	These are mailing packages that the U. S. Postal Service returned as undeliverable as addressed.	
United States Postal Service	The United States Postal Service (USPS) delivers paper questionnaires mailed to living quarters, delivers paper questionnaires mailed back to the Census Bureau, and also returns undeliverable mailing packages to the Census Bureau.	
Universe Selection - Follow-ups	These are the data that reflect the results of the universe selection processes for all census enumeration follow-up activities. The data include all necessary person data needed to perform the follow-up, such as Nonresponse Follow-up, New Construction, Verification of New Non-IDs, Vacant/Delete Check, Late Mail Return, Coverage Edit Follow-up, Unduplication, and Large Household Follow-up. This includes sampling information for experiments and evaluations. This is accumulated status and related information from all previous pre-census and post-census day operations and activities that affect LQ universe status, including unit identifier corrections and/or deletes. MAF/TIGER Touchpoint.	
Universe Selection - Initial	This is the result of the universe selection process that identifies the following initial universe outputs. It includes the following: list universe, universes for the print files, universe for check for validity, type of enumeration and distribution method evaluation	

Name	Purpose	Notes
	universes, surname needed/exists, sub surname, experiments universes, and GQ validation list. MAF/TIGER Touchpoint	
Universe Selection - Updated	This is the updated initial Census LQ Universe based on activities such as Group Quarters Validation, Delivery Sequence File (DSF) Refresh(es), New Construction, Local Update of Census Address (LUCA) Appeals, and so forth. The output is created multiple times. This includes sampling information for experiments and evaluations. MAF/TIGER Touchpoint.	
Universe Selection Criteria - LQ	Criteria used to select which living quarters from the LQ Universe are to be included in the various census operations.	
Universe Updates - Final Form Conversion Status	This provides final disposition information regarding data capture of all individual forms checked-in.	
Universe Updates - Follow-up Edits	The results of the follow-up edit checks on units for whom respondent data is being returned.	
Universe Updates - Paper Conversion (incl. surnames/check-in)	The results of the data conversion and data receipt for respondent's data received on paper form. Includes updated status information, surnames and pop count; this updates incrementally throughout the conversion process starting with check-in of receipt.	
Universe Updates - Potential Duplicates	The indicators that identify the potential duplicate enumerations for follow-up. This provides the linkage among two or more census identification numbers.	
Universe Updates - Validated (phone numbers)	The results of the validity checks on units for whom respondent data is being returned and converted. This information provides telephone numbers prior to face-to-face coverage measurement interviewing.	
Universe Updates - Validated Electronic (incl. surnames/check-in)	The results of the validity checks on units for whom respondent data is being returned and converted if necessary. For electronic self-response, this includes surnames.	
Universe and Control System (UCS)	This is the census living quarters universe selection and control system including the ability to form assignment areas for collection and follow-up.	
Weighted Coverage Measurement Evaluation Data	This is an assortment of sample data ready to form estimates needed to evaluate the person and housing unit coverage measurement estimates. The data include estimation weights, all statuses and	

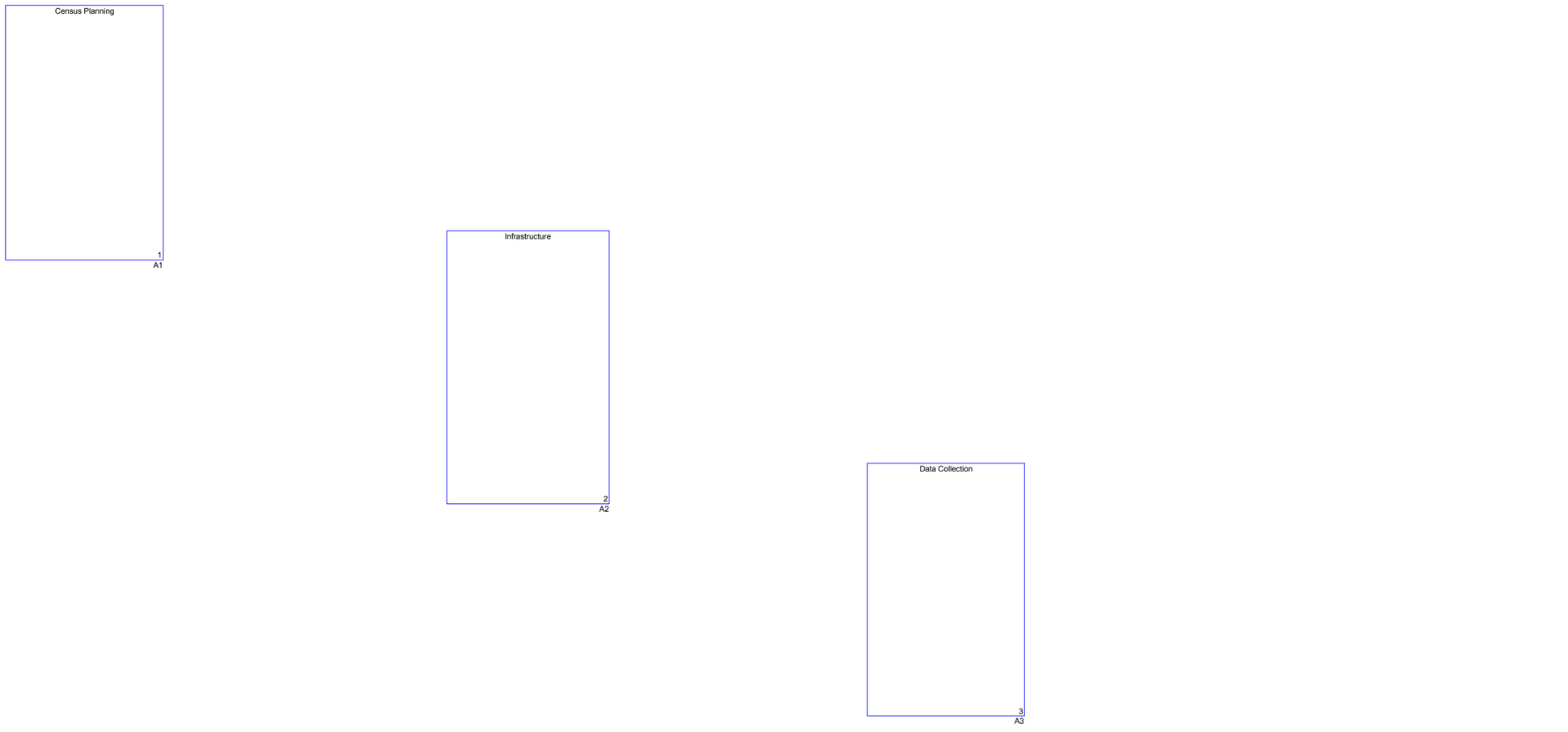
Name	Purpose	Notes
	estimation characteristics have been imputed as needed (including alternative methodologies), and appropriate recodes and data preparation have been done.	
Weighted Evaluation and Experimental Data	This is an assortment of sample evaluation and experimental data ready to form estimates. The data include estimation weights, all statuses and estimation characteristics have been imputed as needed (including alternative methodologies), and appropriate recodes and data preparation have been done.	
Weighted HU E-Sample Data	This is the sample of census housing units ready for estimation. The data include estimation weights, all statuses and estimation characteristics have been imputed as needed, and appropriate recodes and data preparation has been done.	
Weighted HU P-Sample Data	This is the independent housing unit data ready for estimation. The data include estimation weights, all statuses and estimation characteristics have been imputed as needed, and appropriate recodes and data preparation has been done.	
Weighted Person E-Sample Data	This is the sample of census enumerations ready for estimation. The data include estimation weights, all statuses and estimation characteristics have been imputed as needed, and appropriate recodes and data preparation has been done.	
Weighted Person P-Sample Data	This is the independent person data ready for estimation. The data include estimation weights, all statuses and estimation characteristics have been imputed as needed, and appropriate recodes and data preparation has been done.	

Activity Model Diagram

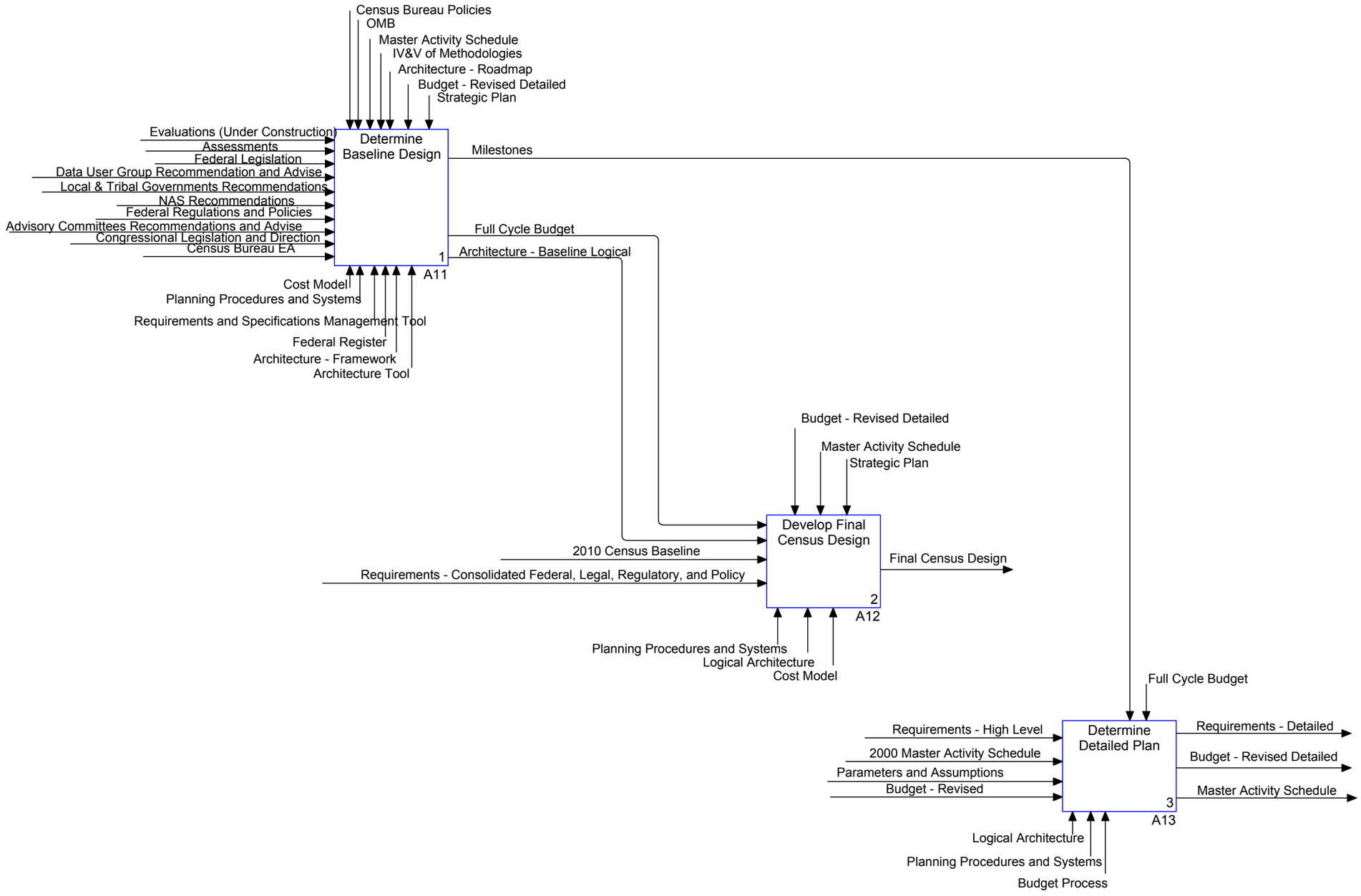
As of October 3, 2003

Contents

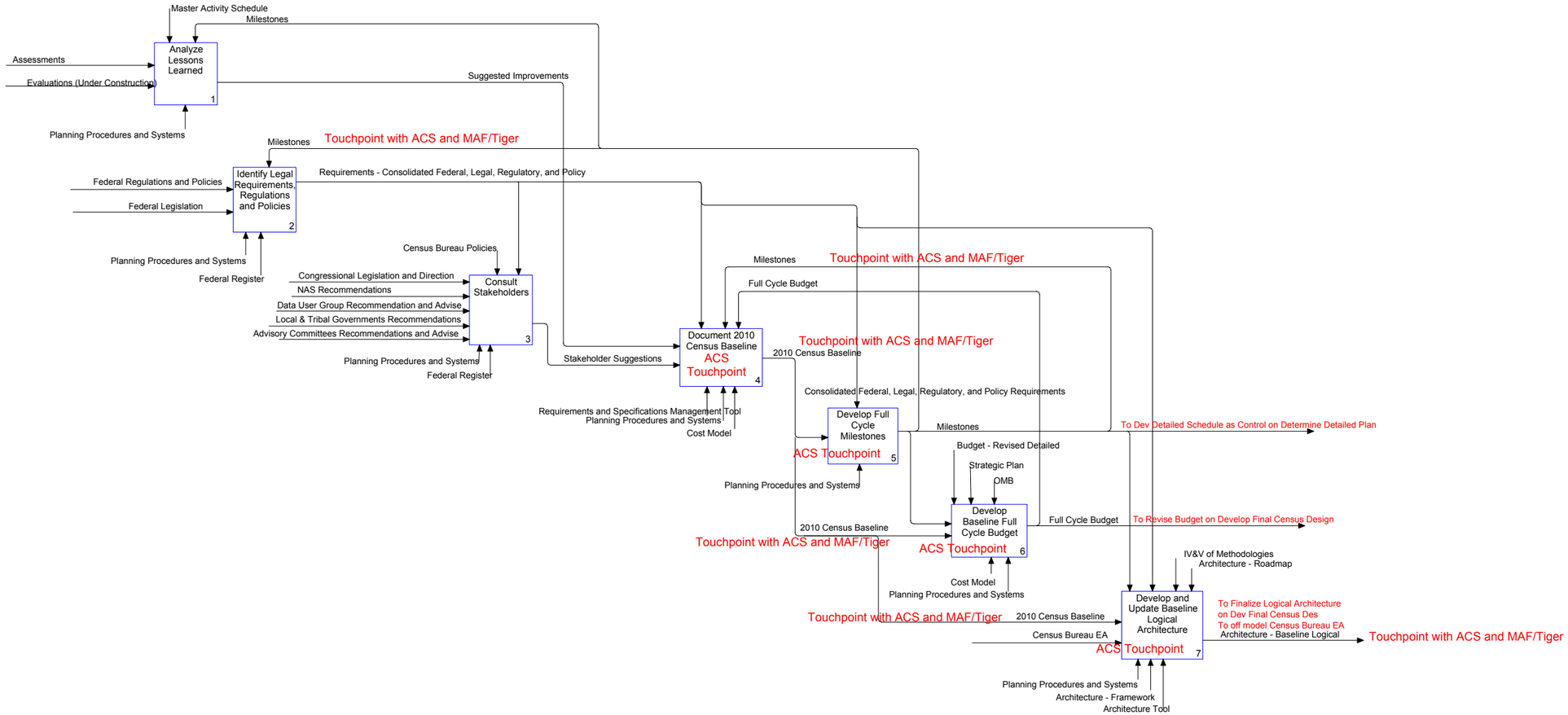
A0 2010 Census



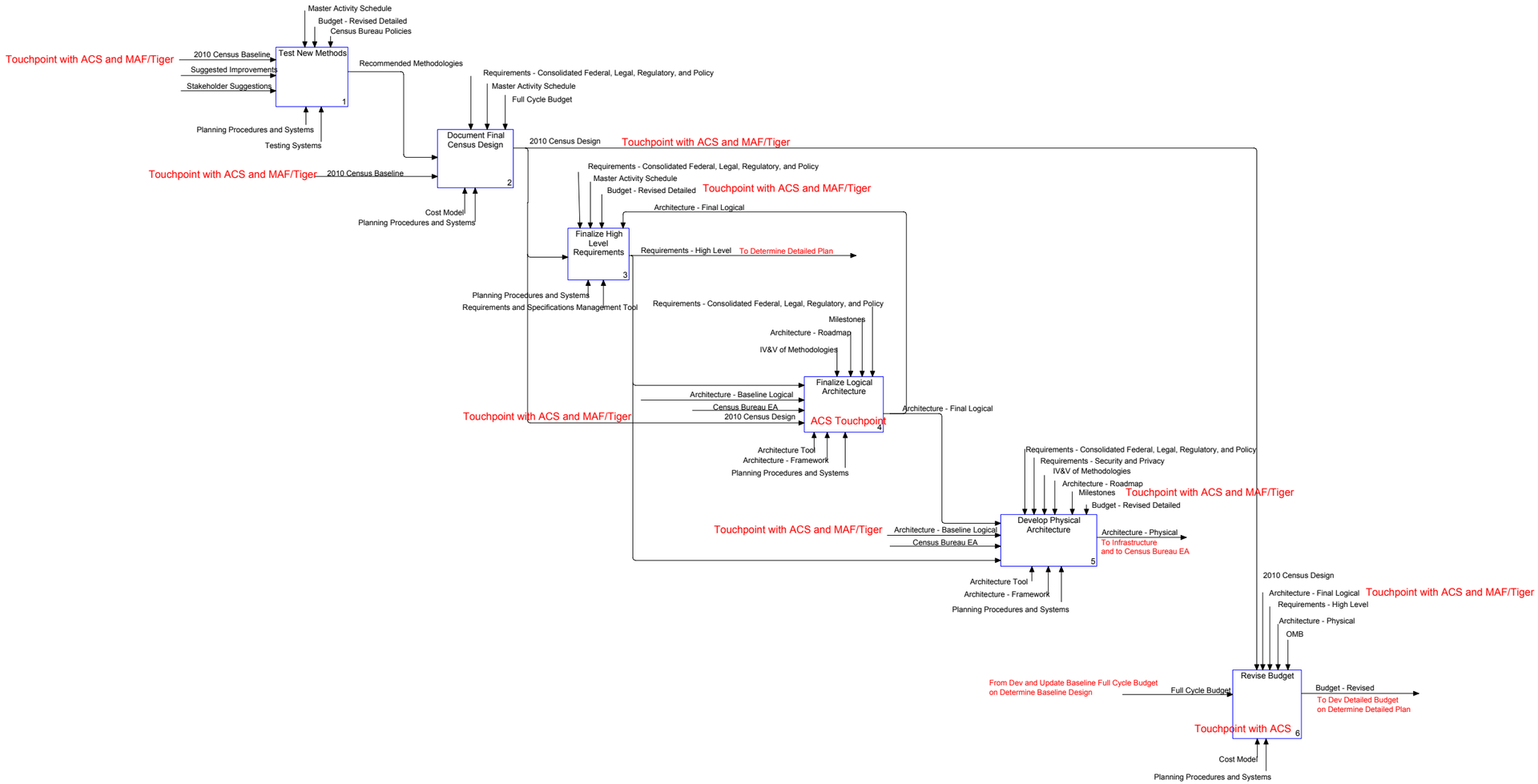
A1 Census Planning



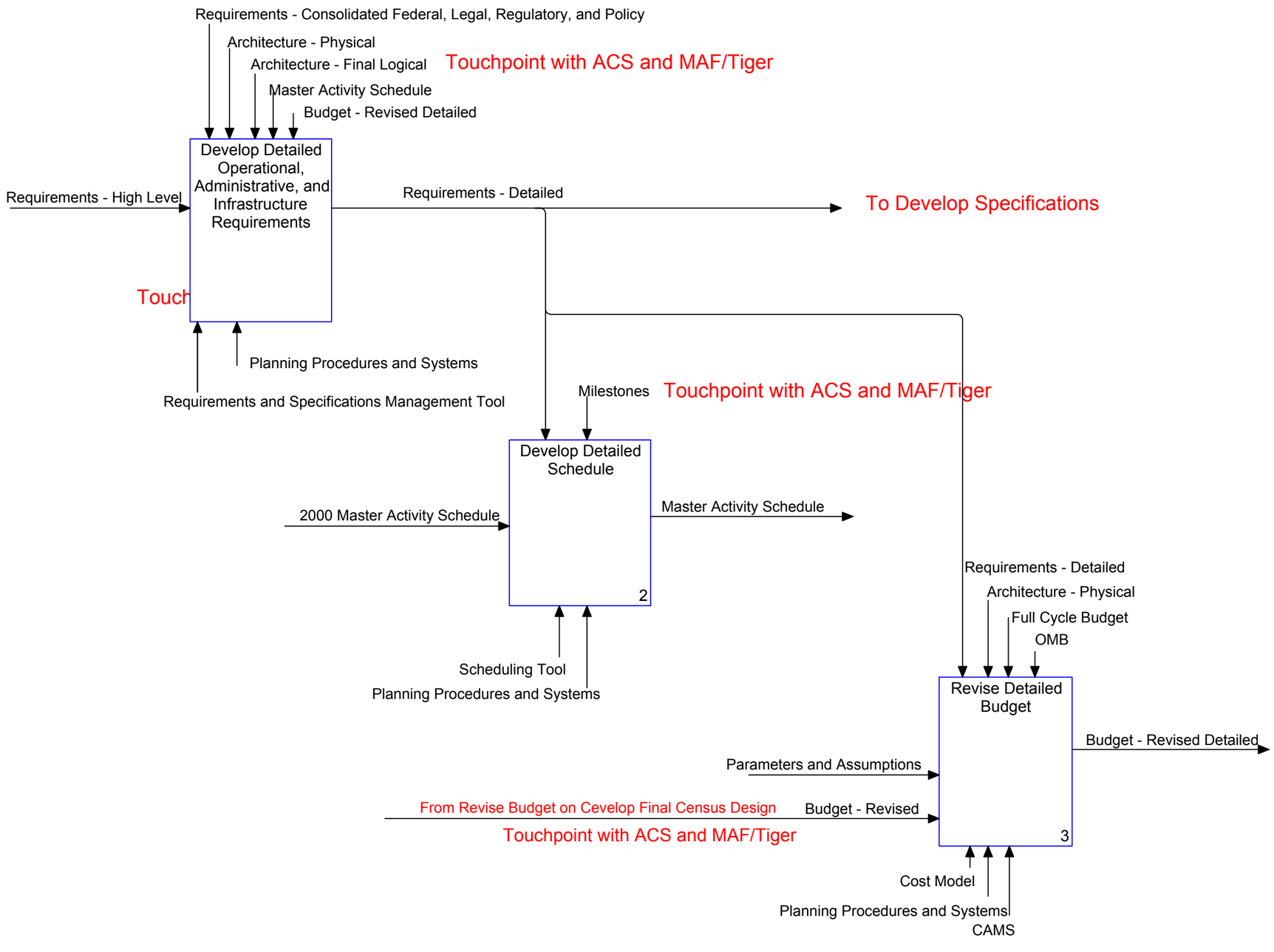
A11 Determine Baseline Design



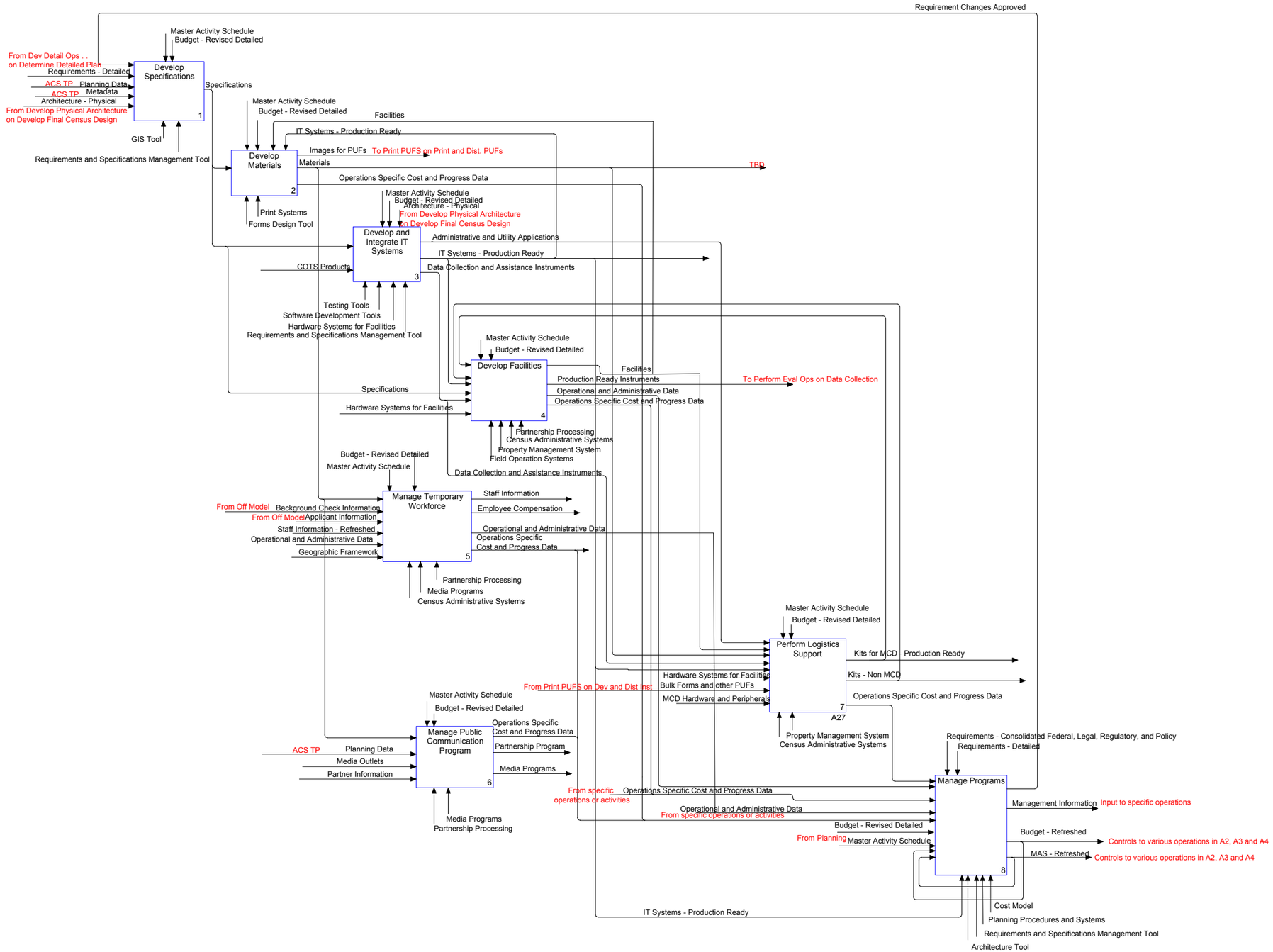
A12 Develop Final Census Design



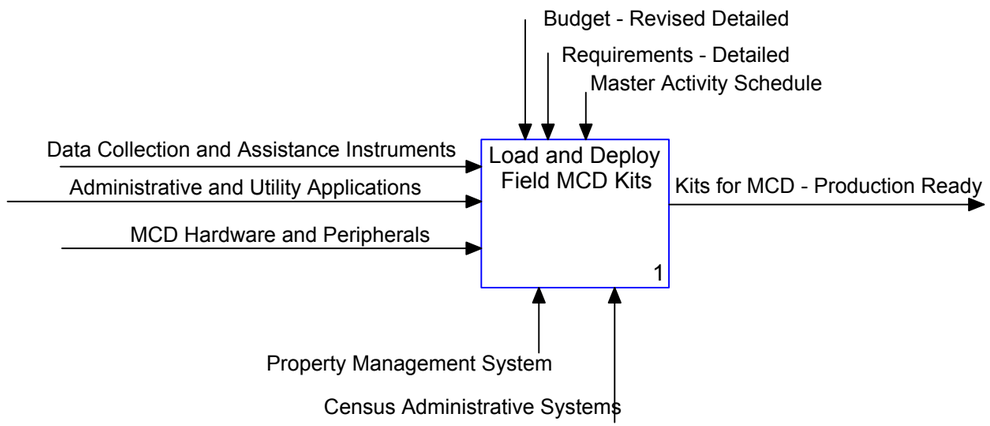
A13 Determine Detailed Plan



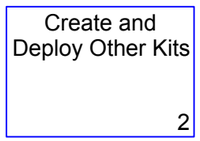
A2 Infrastructure



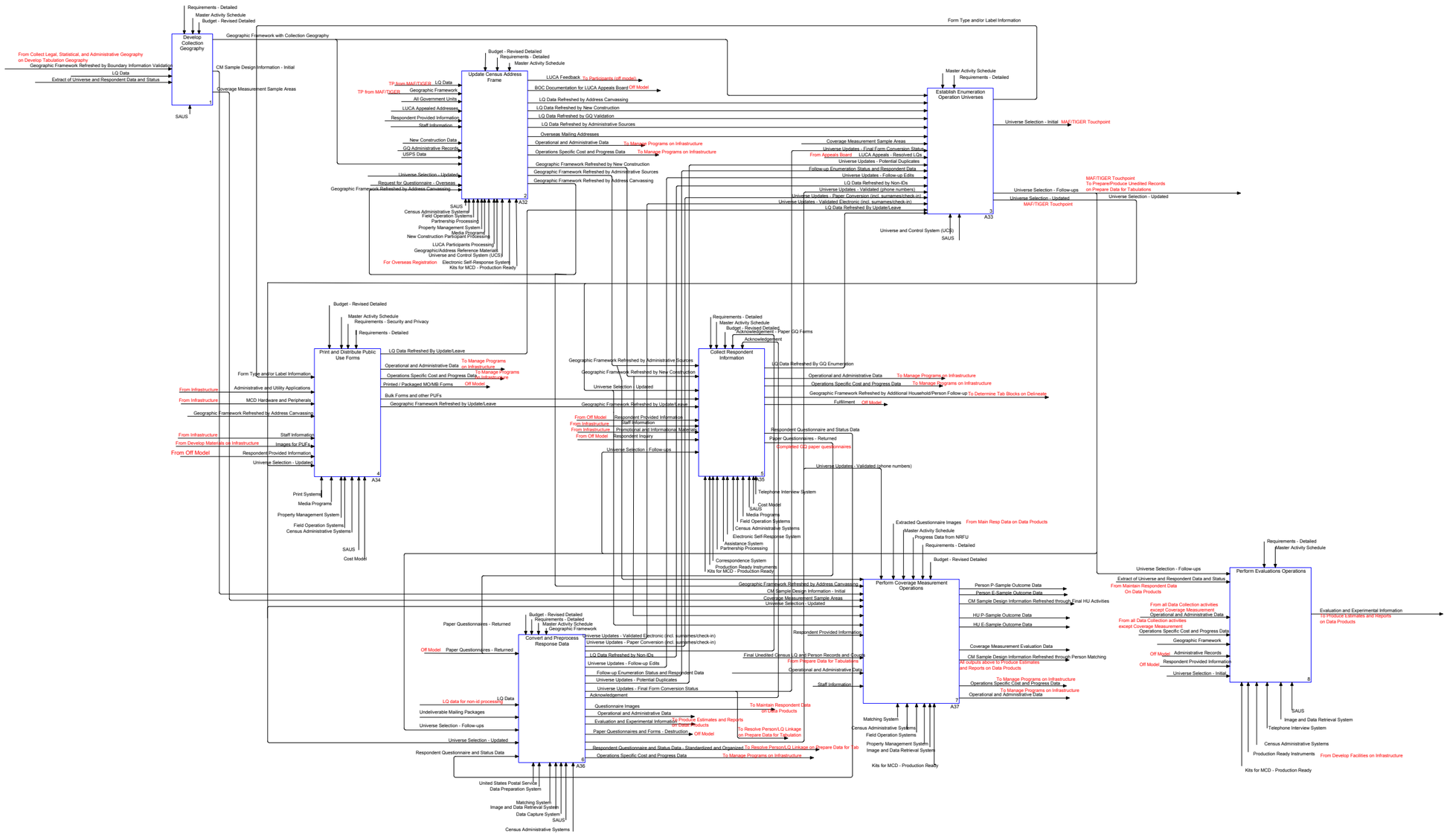
A27 Perform Logistics Support



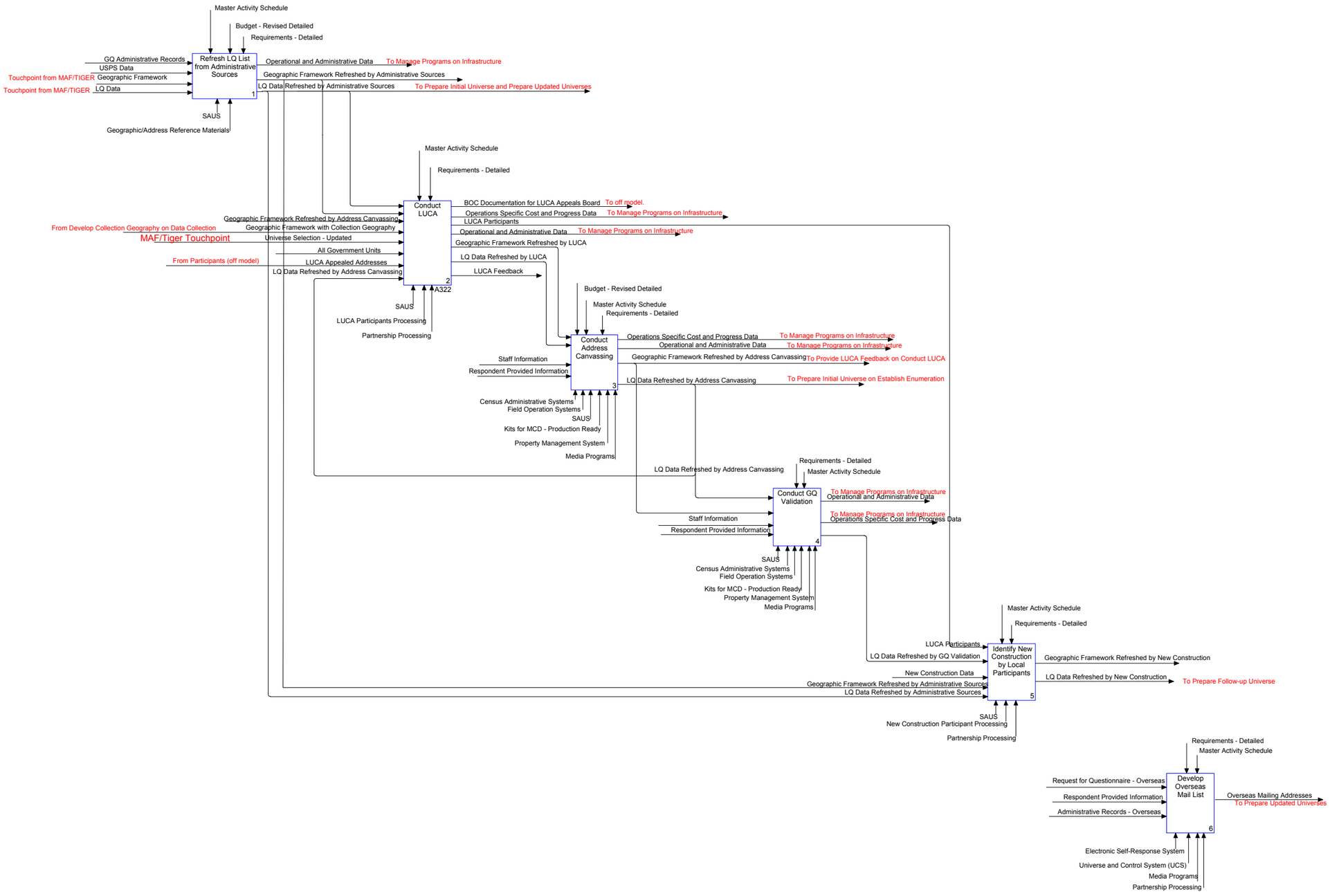
Under Construction



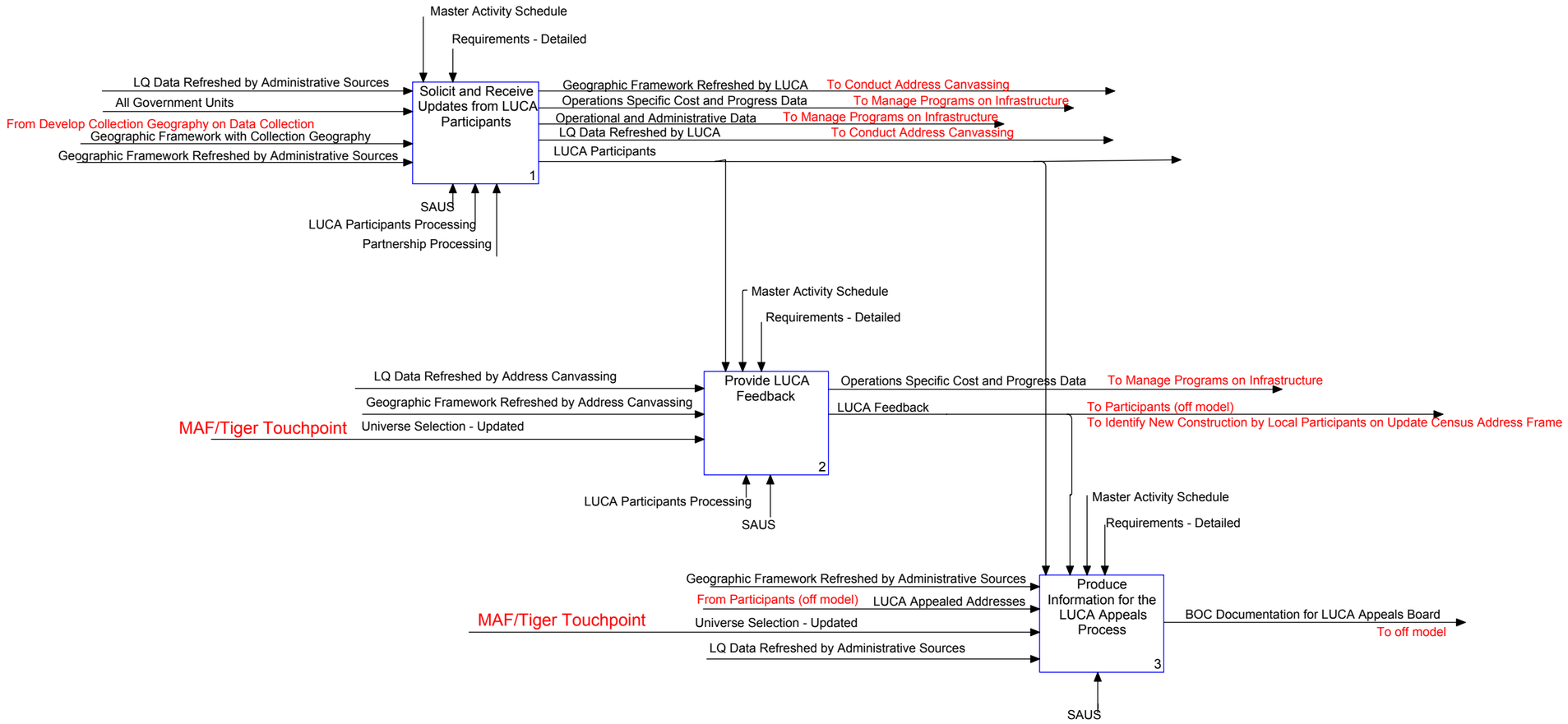
A3 Data Collection



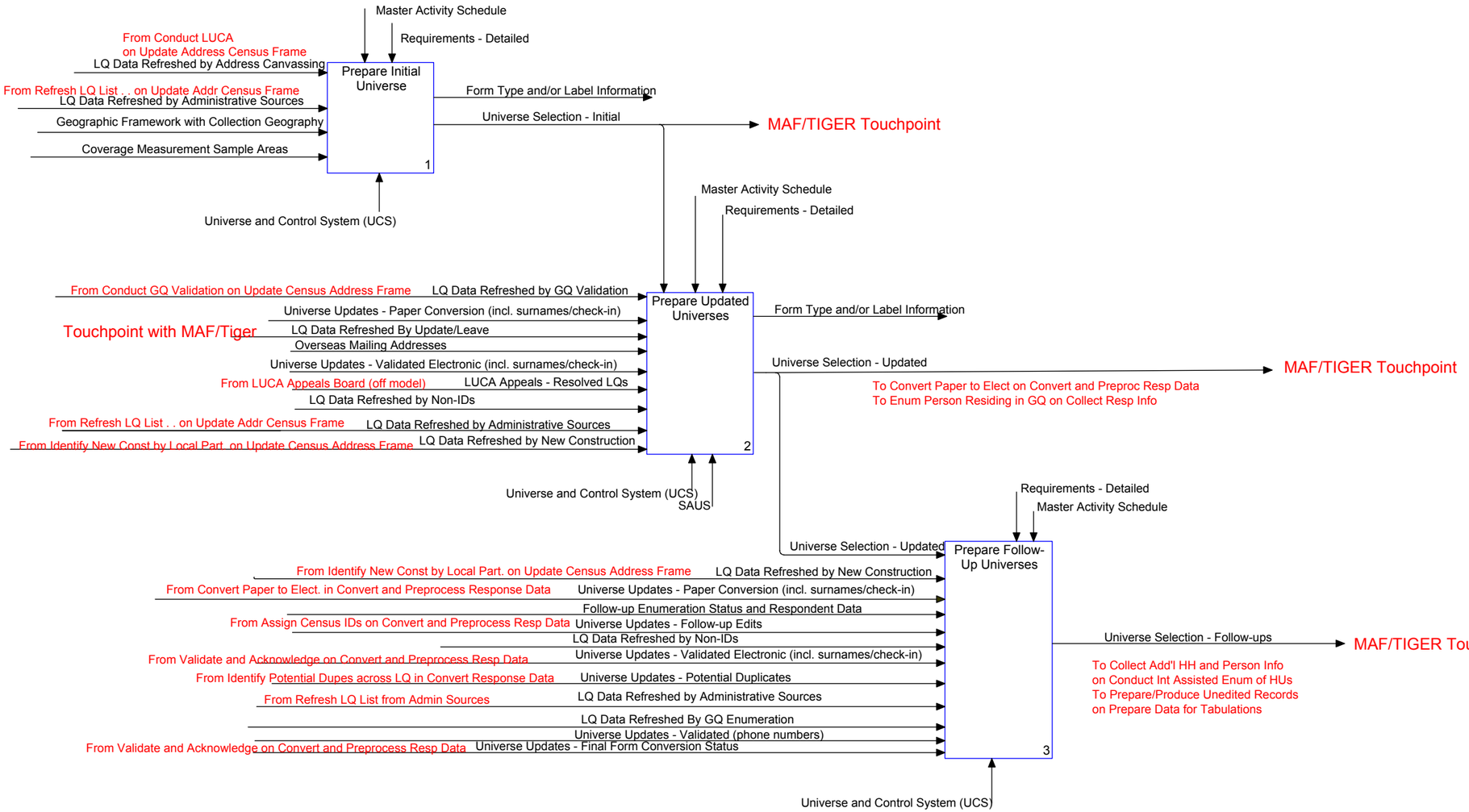
A32 Update Census Address Frame



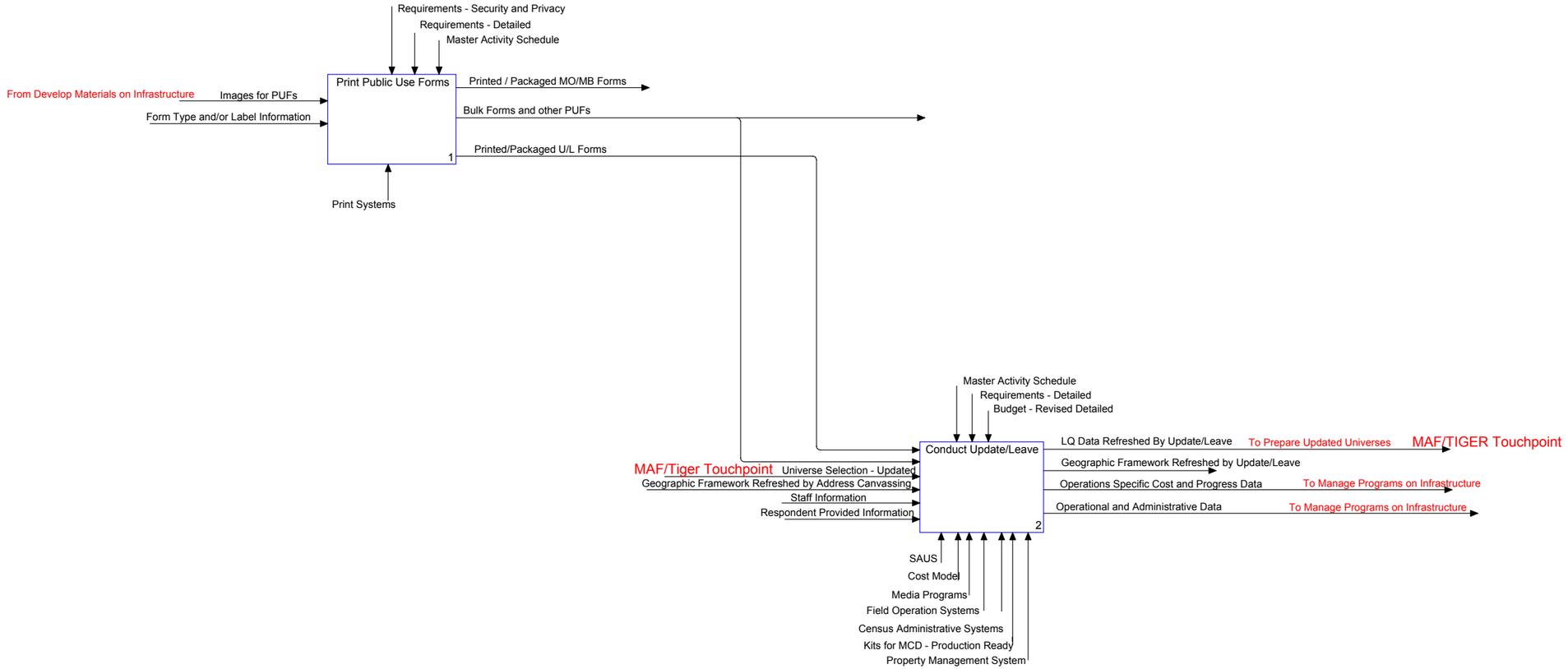
A322 Conduct LUCA



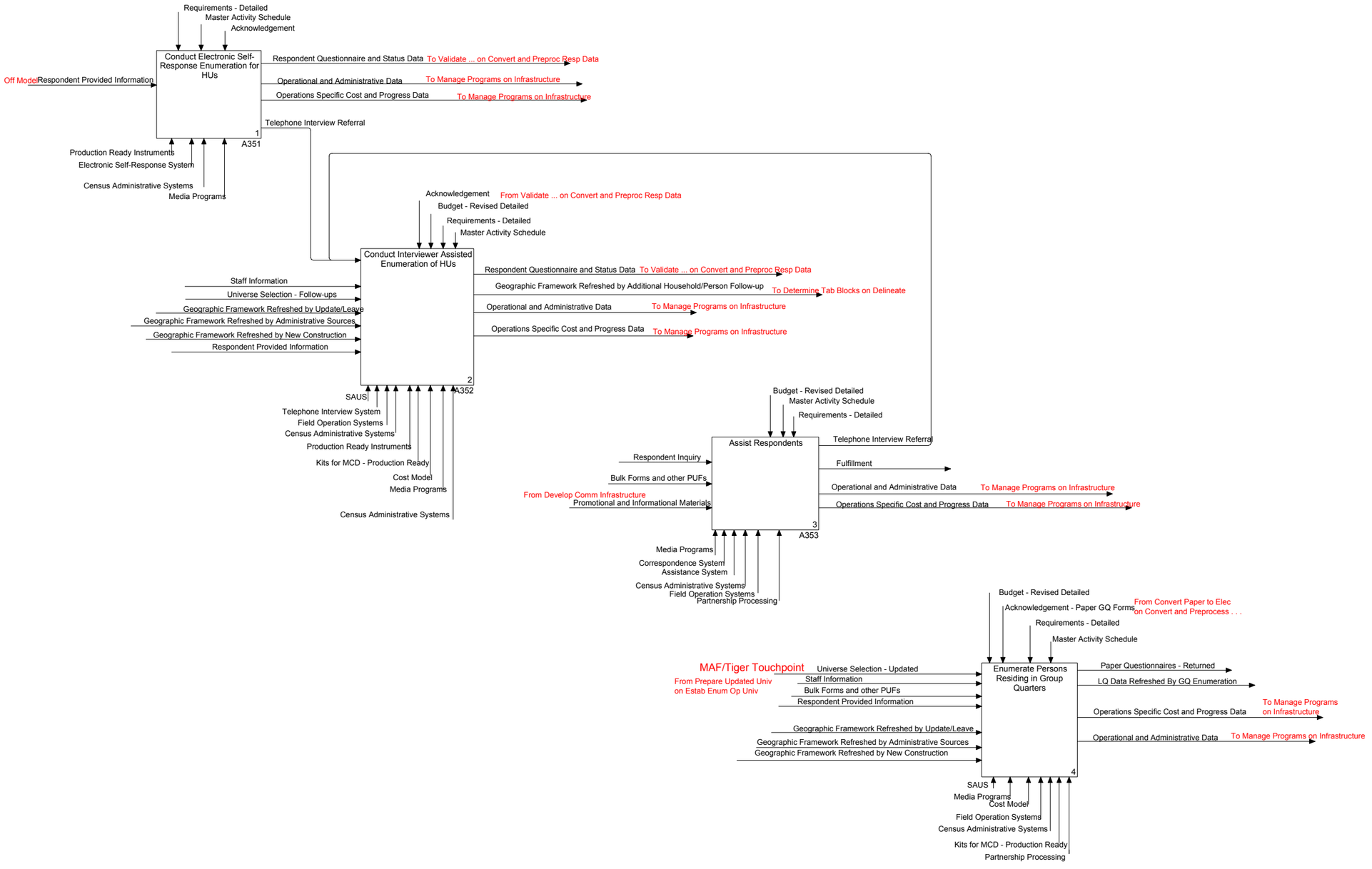
A33 Establish Enumeration Operation Universes



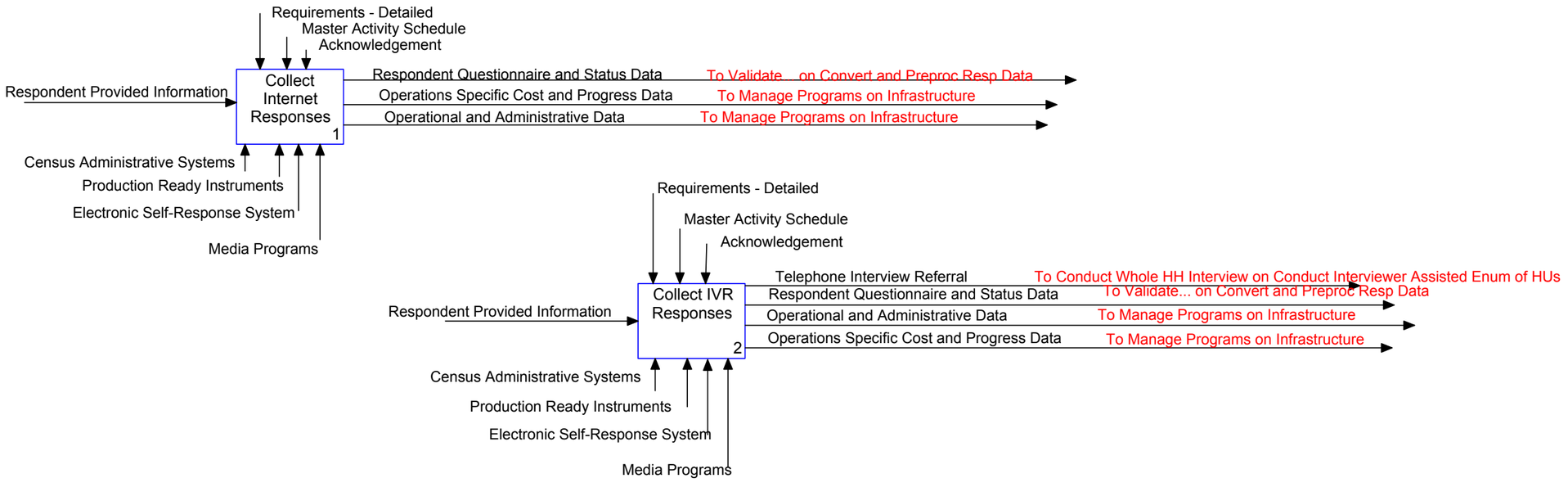
A34 Print and Distribute Public Use Forms



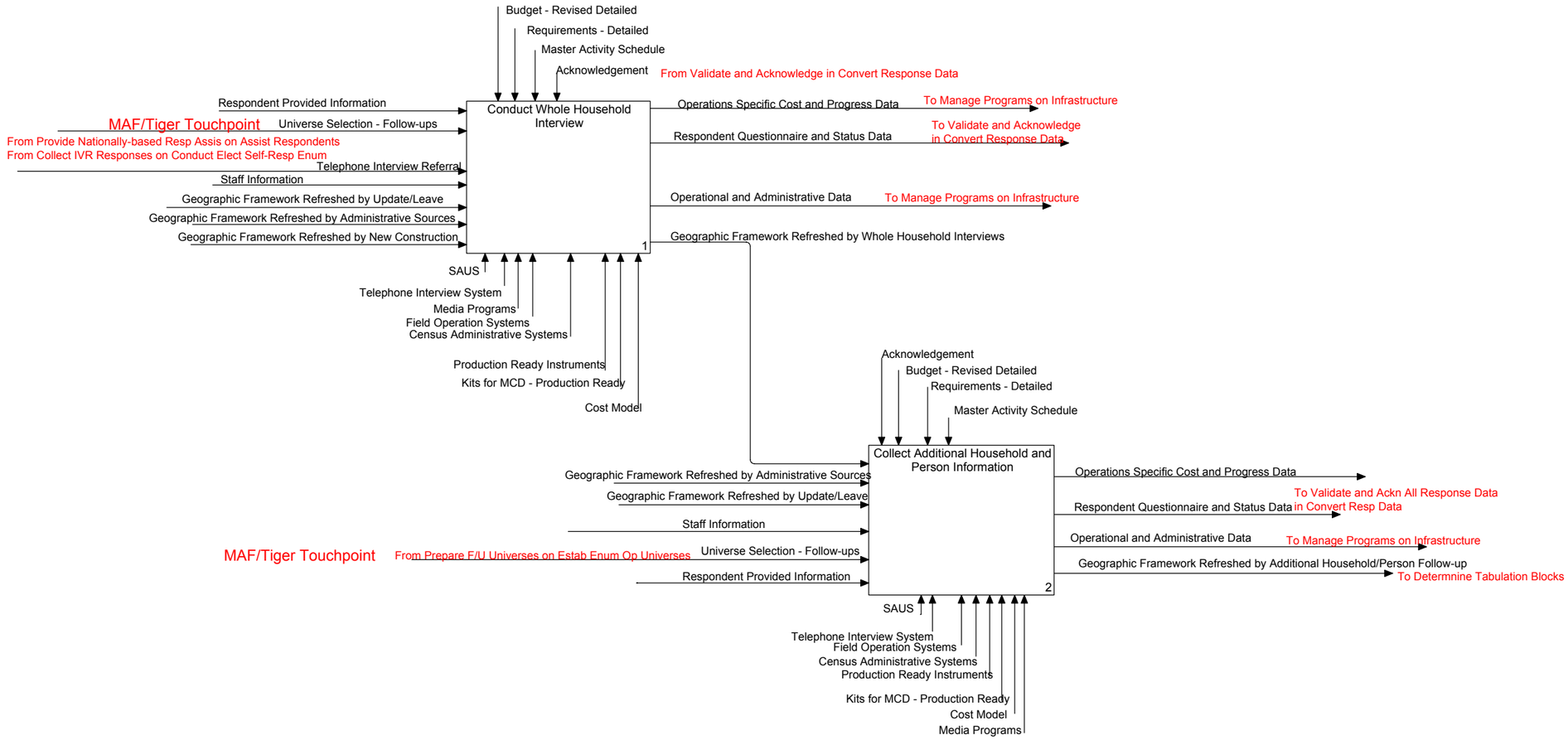
A35 Collect Respondent Information



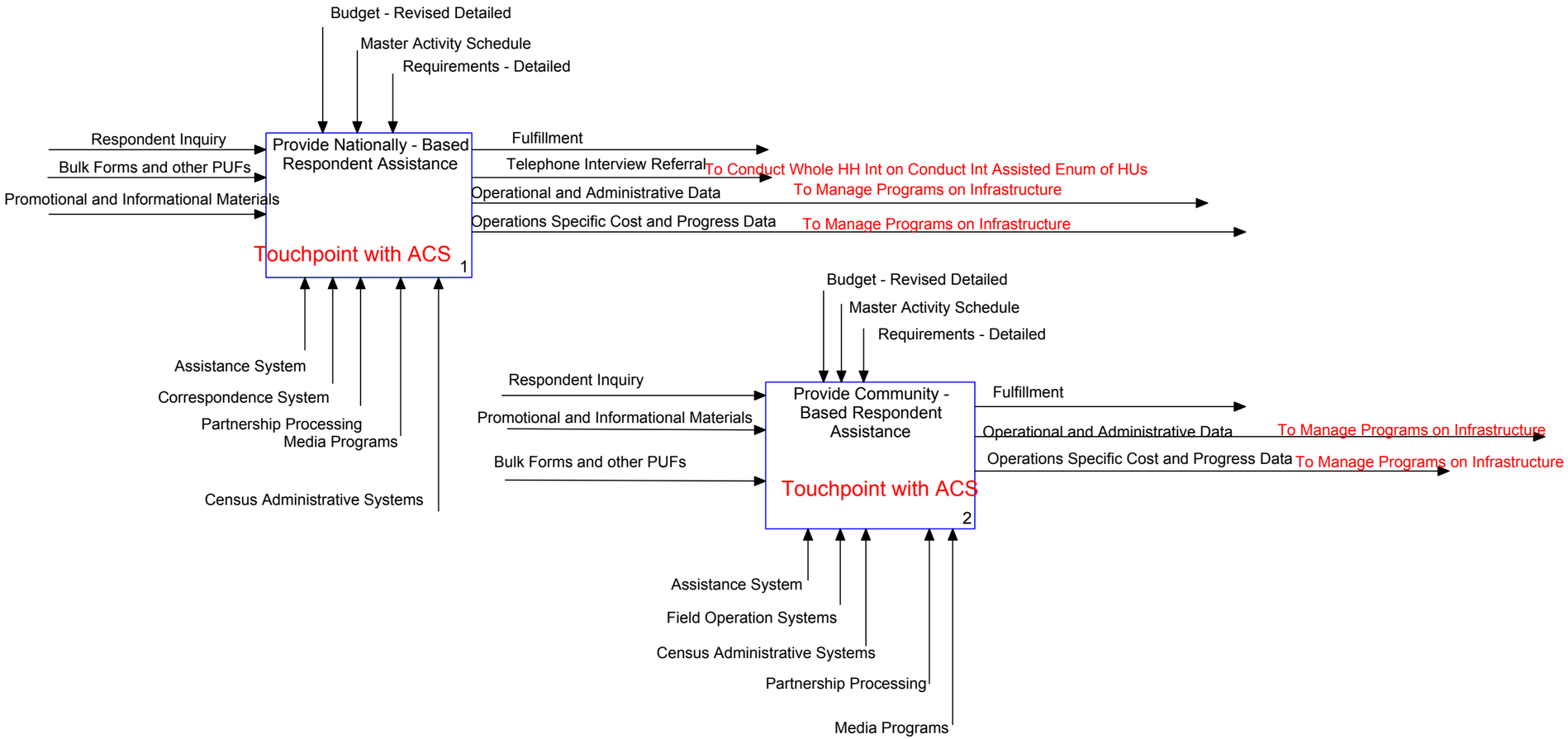
A351 Conduct Electronic Self-Response Enumeration for HUs



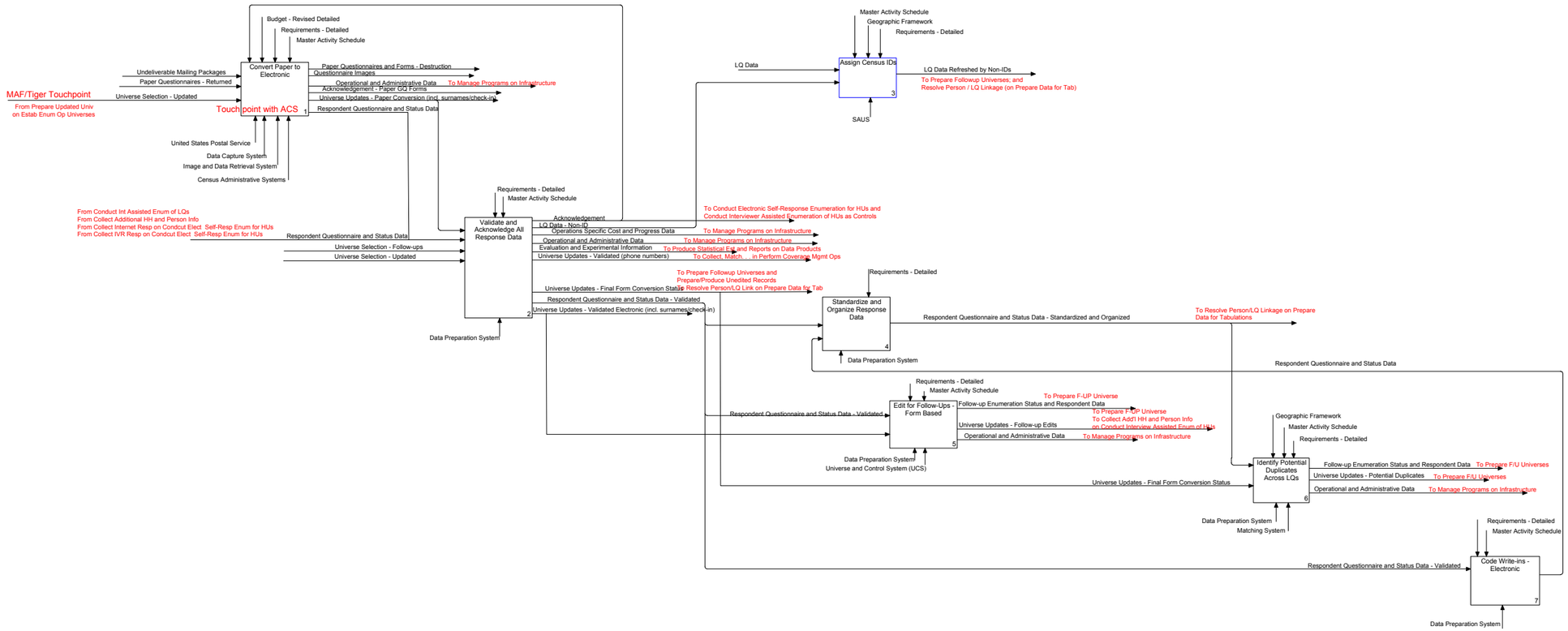
A352 Conduct Interviewer Assisted Enumeration of HUs



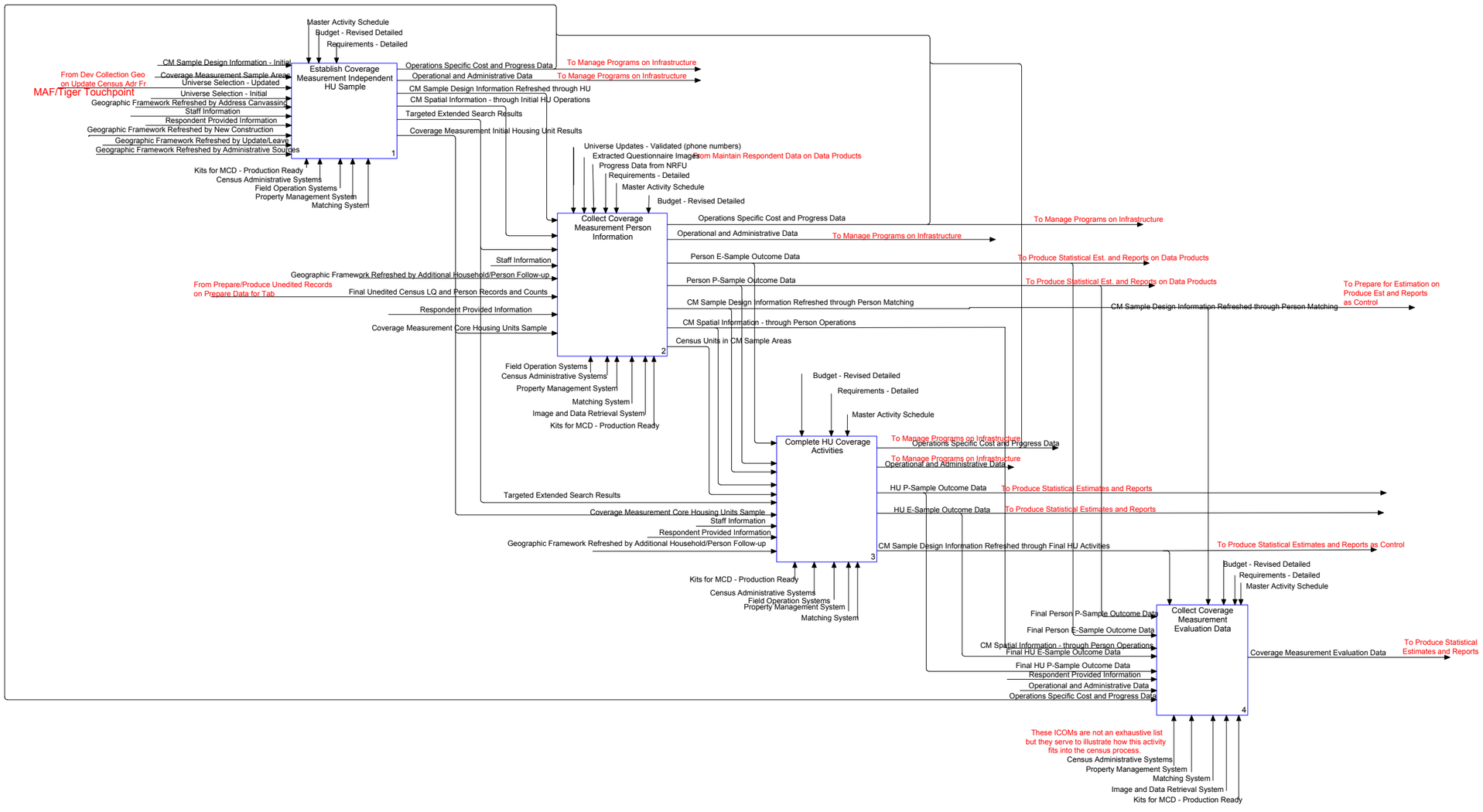
A353 Assist Respondents



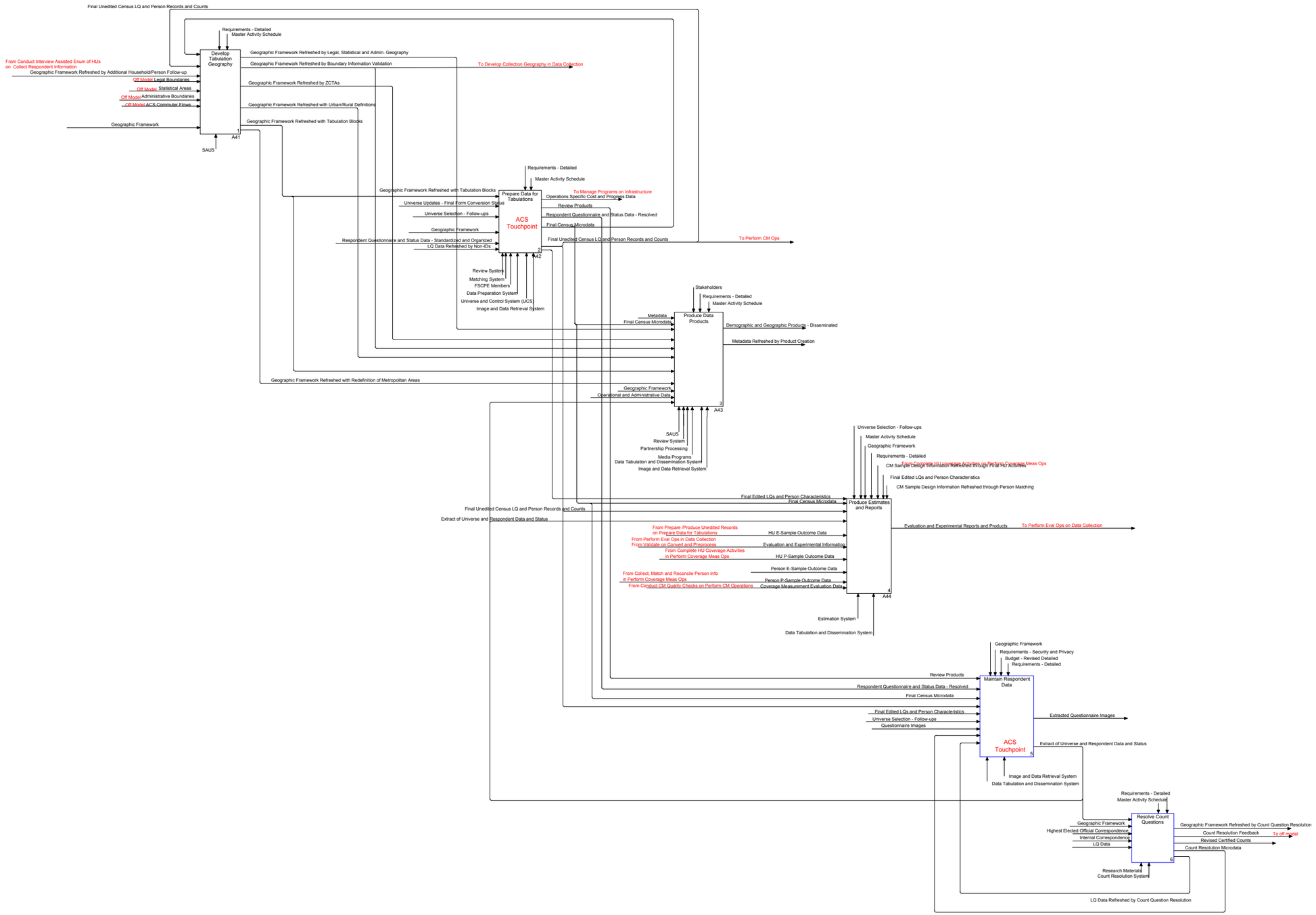
A36 Convert and Preprocess Response Data



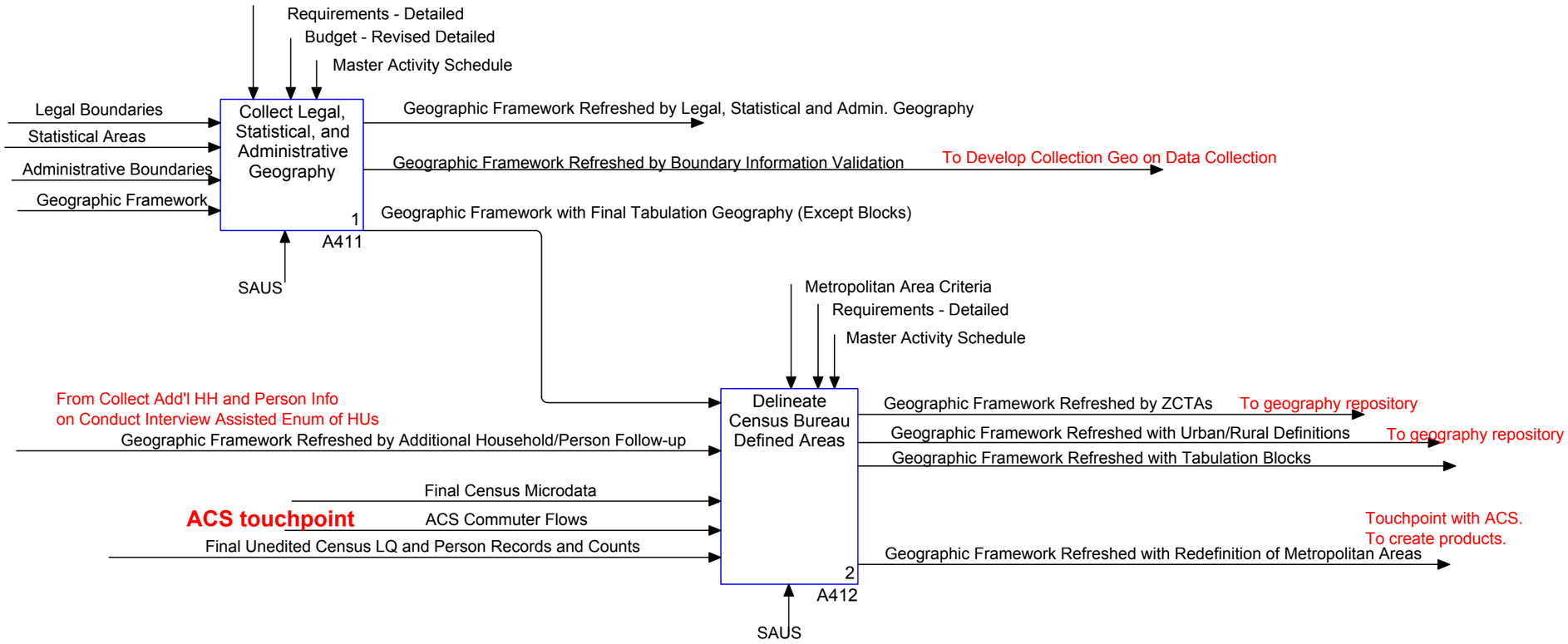
A37 Perform Coverage Measurement Operations



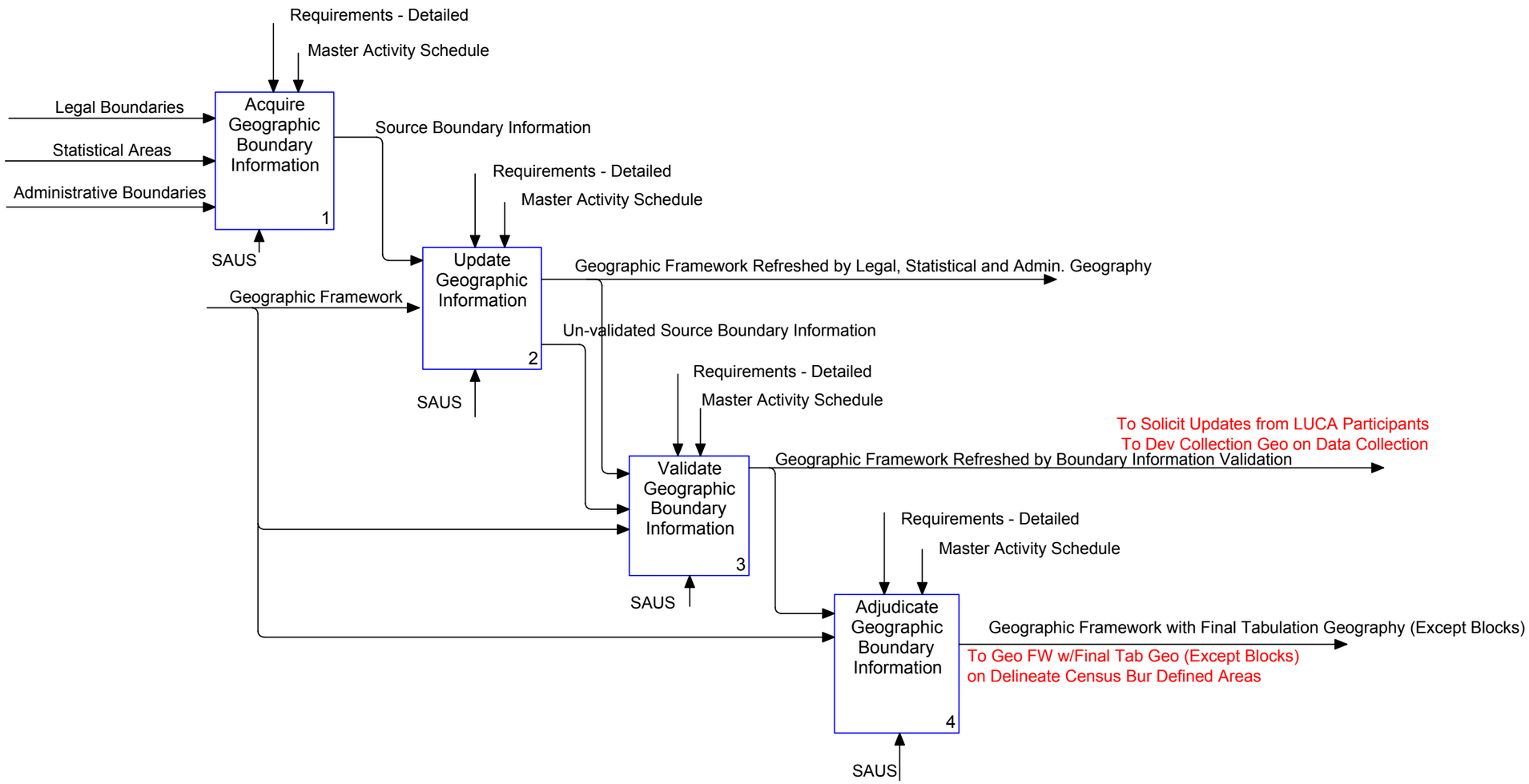
A4 Data Products



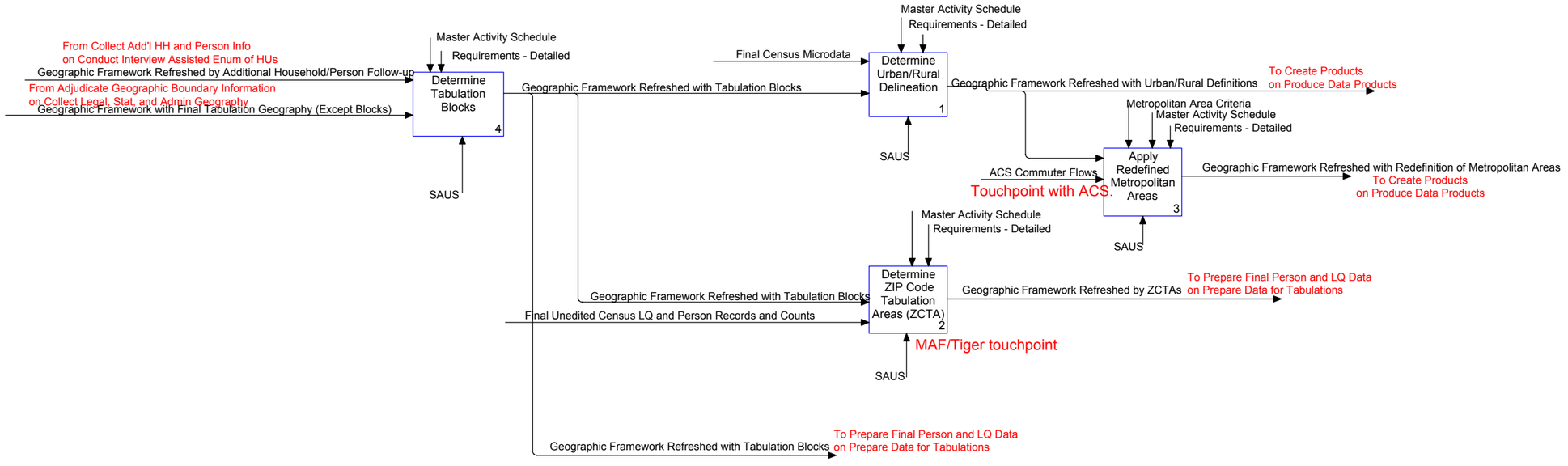
A41 Develop Tabulation Geography



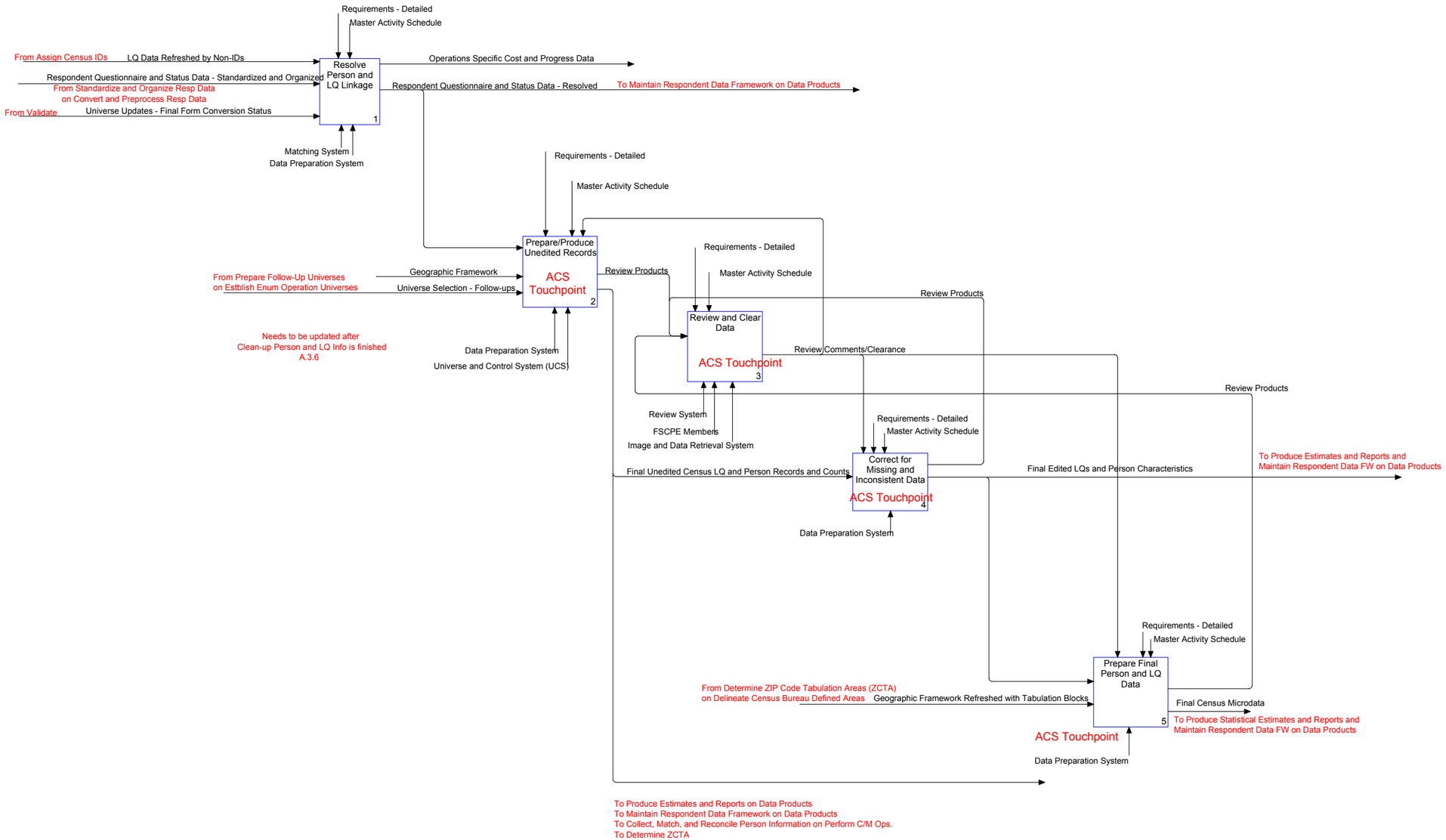
A411 Collect Legal, Statistical, and Administrative Geography



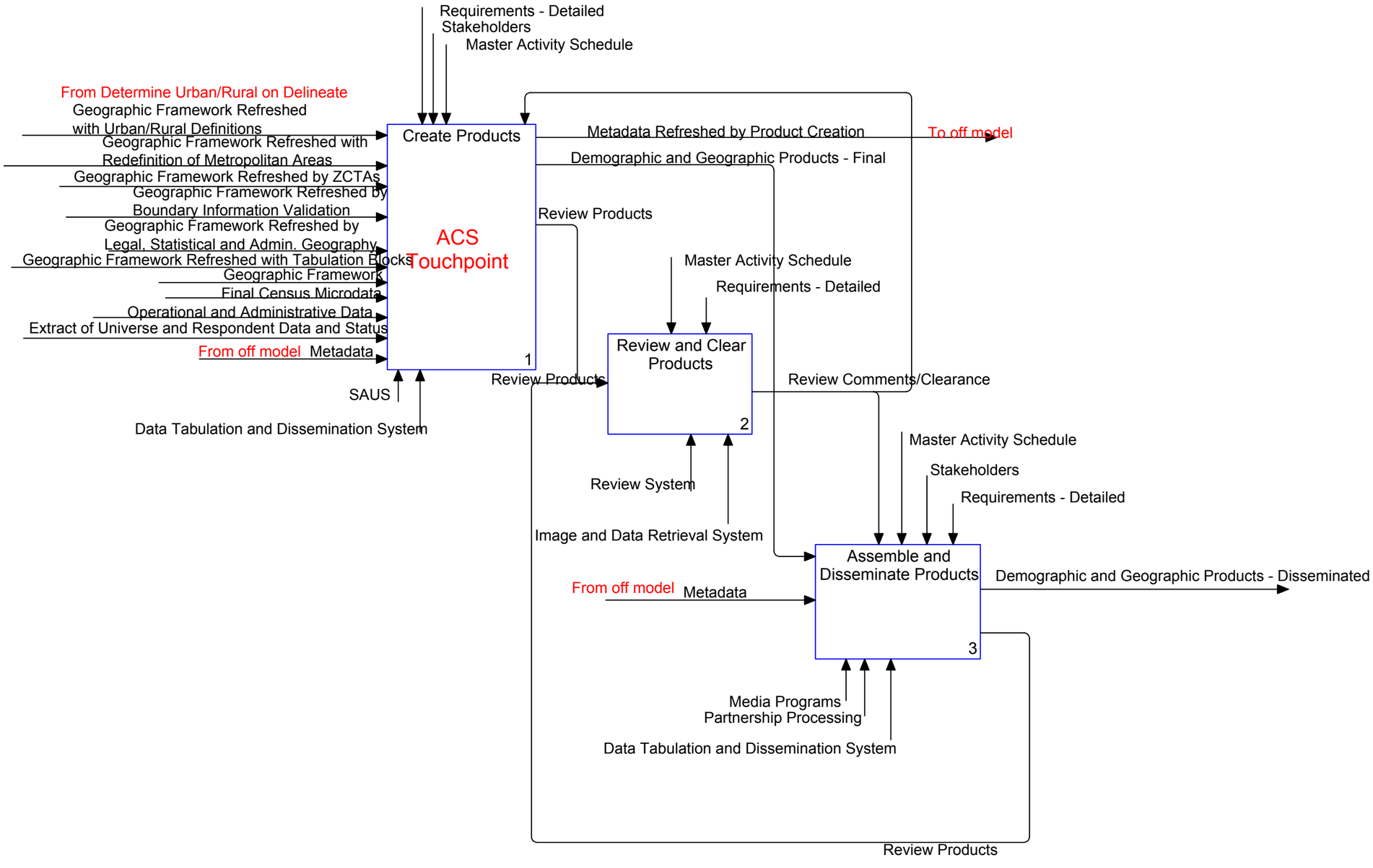
A412 Delineate Census Bureau Defined Areas



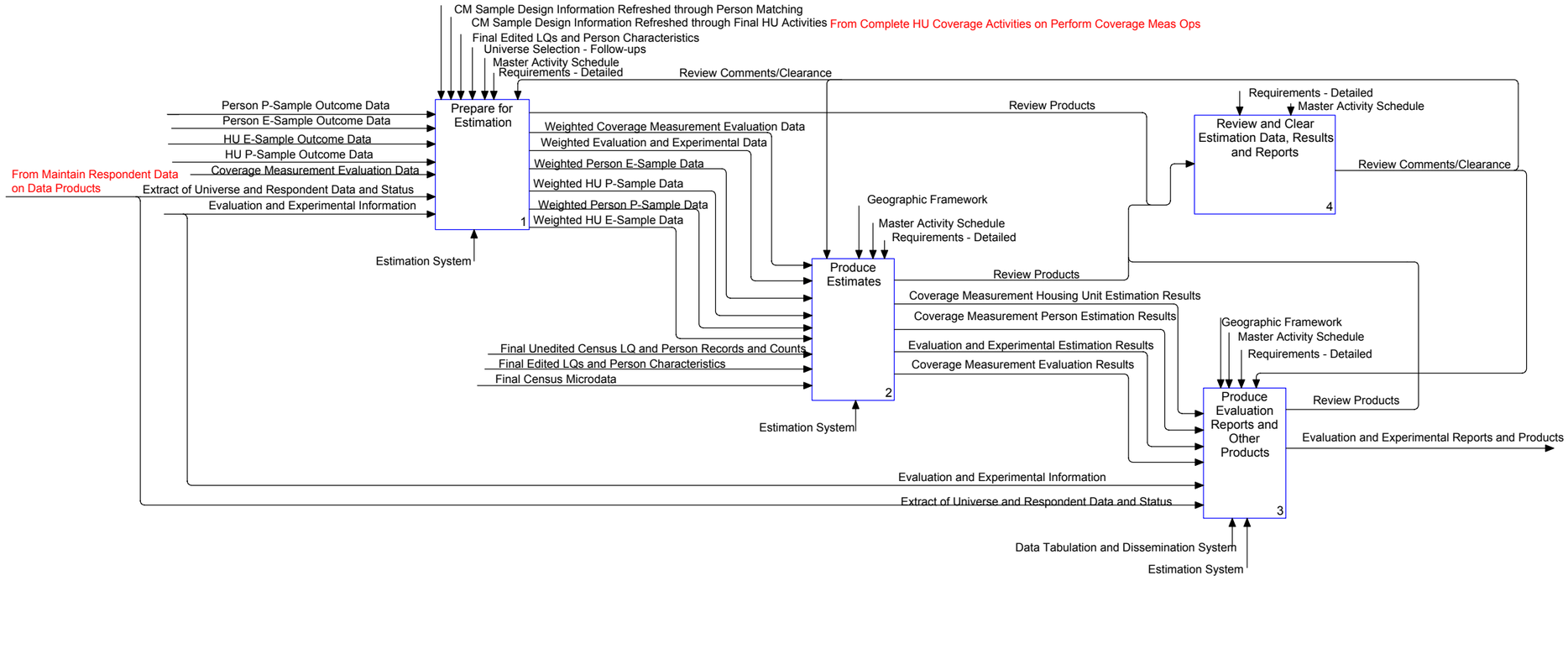
A42 Prepare Data for Tabulations



A43 Produce Data Products



A44 Produce Estimates and Reports

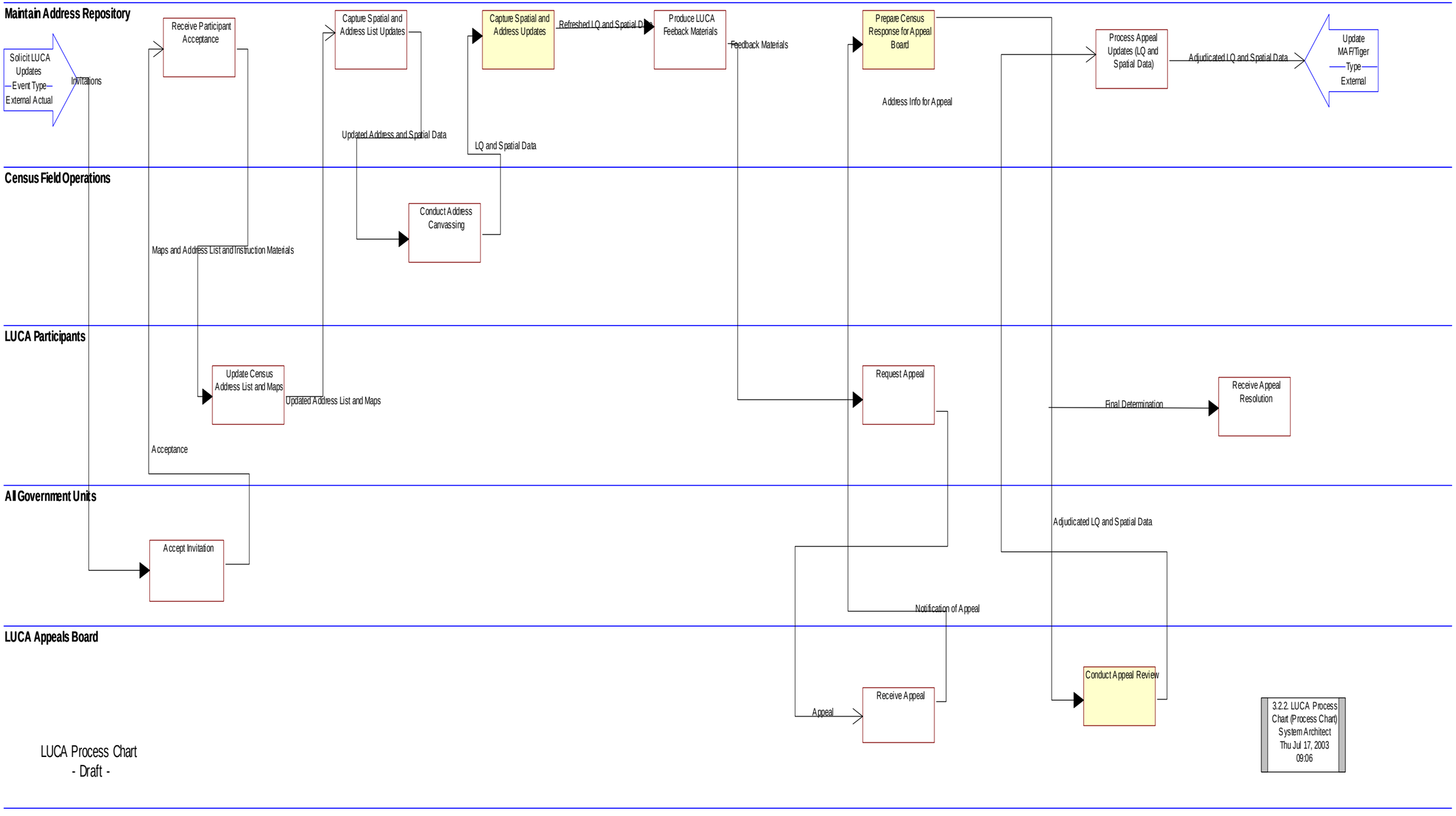


19. PROCESS MODEL

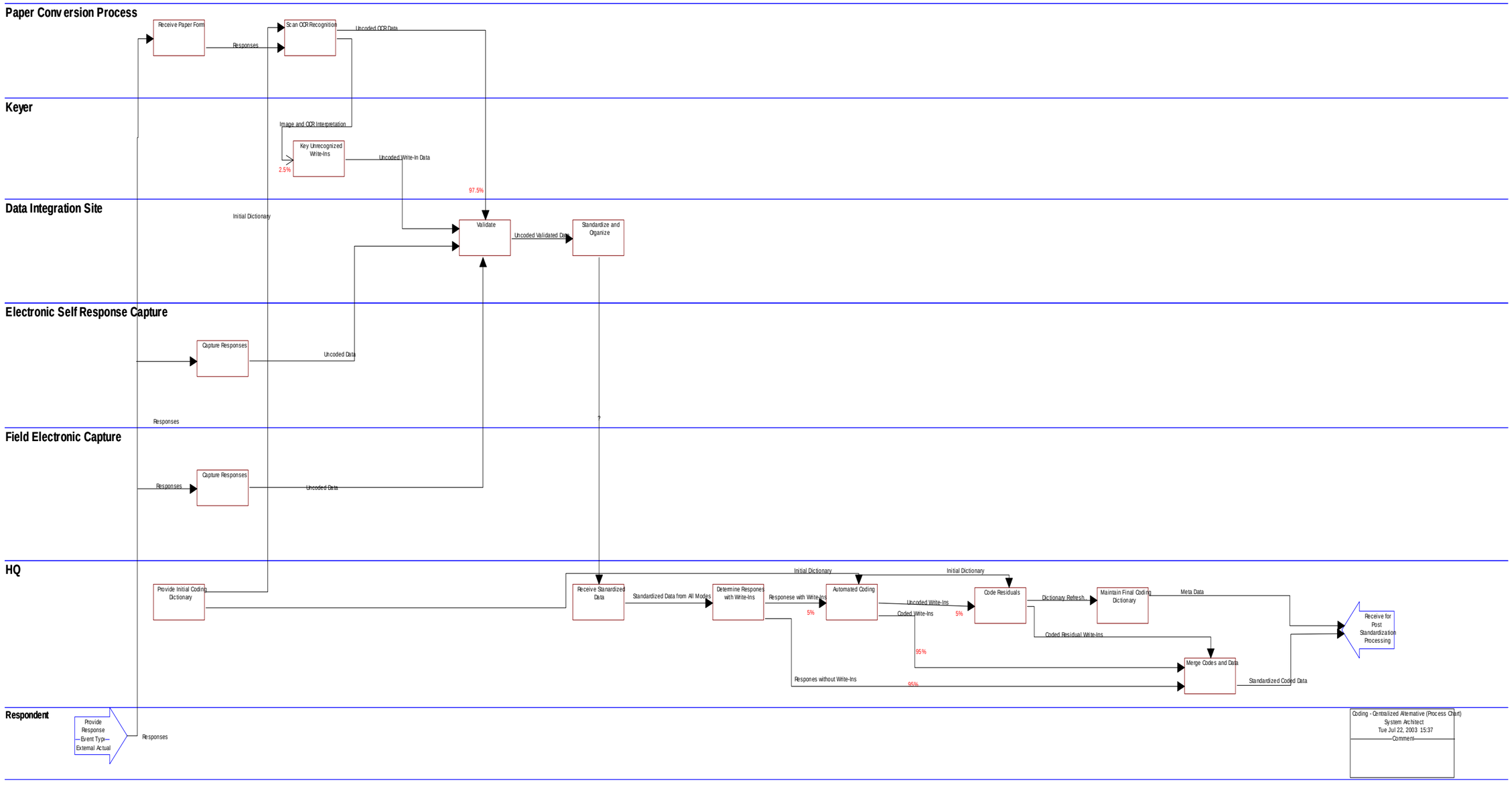
Process Model

The process models depict sequential process steps, decision points, inputs, outputs, etc. The process models for Local Update of Census Addresses (LUCA) activities were developed to understand the model's potential as an analytical tool and to assess alternatives for the Coding process.

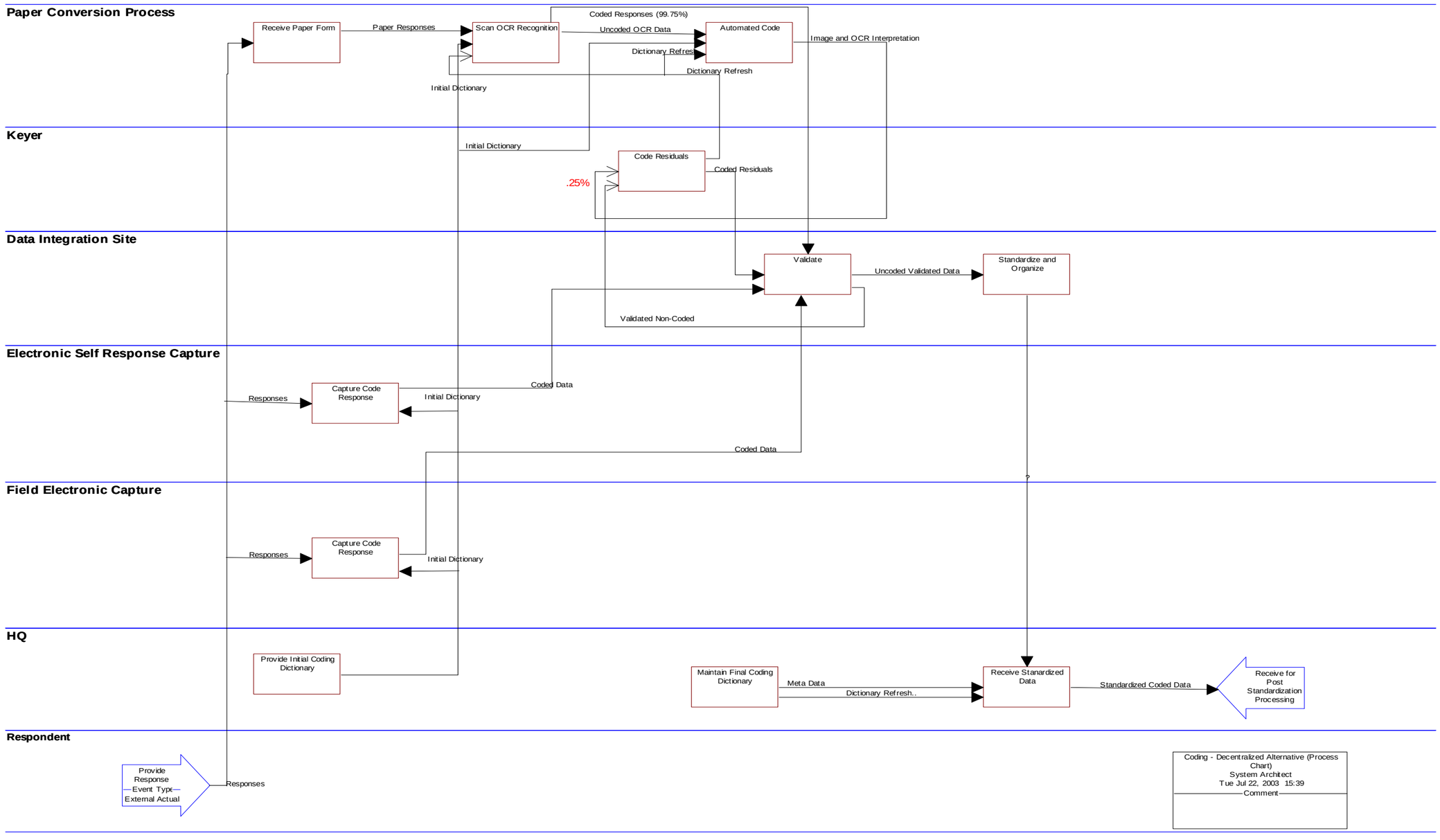
LUCA Process Chart



Coding - Centralized Alternative



Coding - Decentralized Alternative



20. INFORMATION ASSURANCE TRUST MODEL

Information Assurance Trust Model

A matrix that identifies who trusts whom for what. The trusting and trusted entities can be groups of people, roles, information system elements, locations or collections of data. The things trusted for are confidentiality, integrity, availability, identification, and nonrepudiation. The decennial security planning group will provide guidance. This will be a link to the Bureau's Information Technology (IT) Security Standards and Plans.

21. LOCATIONS MAPPED TO FUNCTIONS

Locations Mapped to Functions[1]

Locations Mapped to Functions is a matrix showing the list of physical business locations mapped to business functions. The functions in the matrix are those at the third level of decomposition in the Activity Model. The X indicates where the activity is performed.

2010 Census Physical Locations Mapped to Functions											
	Physical Location	DCC - Data Capture Center	RO – Regional Office	HQ - Headquarters	LCO - Local Census Office	NPC - National Processing Center	QAC - Questionnaire Assistance Center	RCC - Regional Census Center	TC - Telephone Center	CFO – Census Field Office	ACERO – Accuracy, Coverage, Evaluation Regional Office
Function/Activity											
A1 Census Planning											
A11 – Determine Baseline Design				X							
A12 – Develop Final Census Design				X							
A13 - Determine Detailed Plan				X		X		X			
A2 Infrastructure											
A21 – Develop Specifications		X		X							X
A22 – Develop Materials		X		X							X
A23 – Develop and Integrate IT Systems		X		X		X		X	X		X
A24 – Develop Facilities		X	X	X	X	X	X	X	X	X	X
A25 – Manage Temporary Workforce		X		X							
A26 – Manage Public Communication Program		X		X	X		X	X			
A27 – Perform Logistics Support			X	X		X		X			X
A28 – Manage Programs			X	X				X			X
A3 Data Collection											
A31 – Develop Collection Geography				X				X			
A32 – Update Census Address Frame				X							

[1] This matrix is based on "as-is" information from the 2000 Census. The Architecture Team will revise this matrix when they receive more direction regarding the 2010 physical locations.

2010 Census Physical Locations Mapped to Functions											
	Physical Location	DCC - Data Capture Center	RO – Regional Office	HQ - Headquarters	LCO - Local Census Office	NPC - National Processing Center	QAC - Questionnaire Assistance Center	RCC - Regional Census Center	TC - Telephone Center	CFO – Census Field Office	ACERO – Accuracy, Coverage, Evaluation Regional Office
A33 – Establish Enumeration Operation Universes				X							
A34 – Print and Distribute Public Use Forms				X	X		X	X	X		
A35 – Collect Respondent Information		X		X	X	X	X		X	X	
A36 – Convert and Preprocess Response Data		X				X					
A37 – Perform Coverage Measurement Operations				X							X
A38 – Perform Evaluations Operations				X	X	X		X			
A4 Data Products											
A41 – Develop Tabulation Geography				X							
A42 – Prepare Data for Tabulations				X							
A43 – Produce Data Products				X							
A44 – Produce Estimates and Reports				X							
A45 – Maintain Respondent Data				X		X					
A46 – Resolve Count Questions				X		X		X			

22. INFORMATION ASSURANCE RISK

Information Assurance Risk Assessment

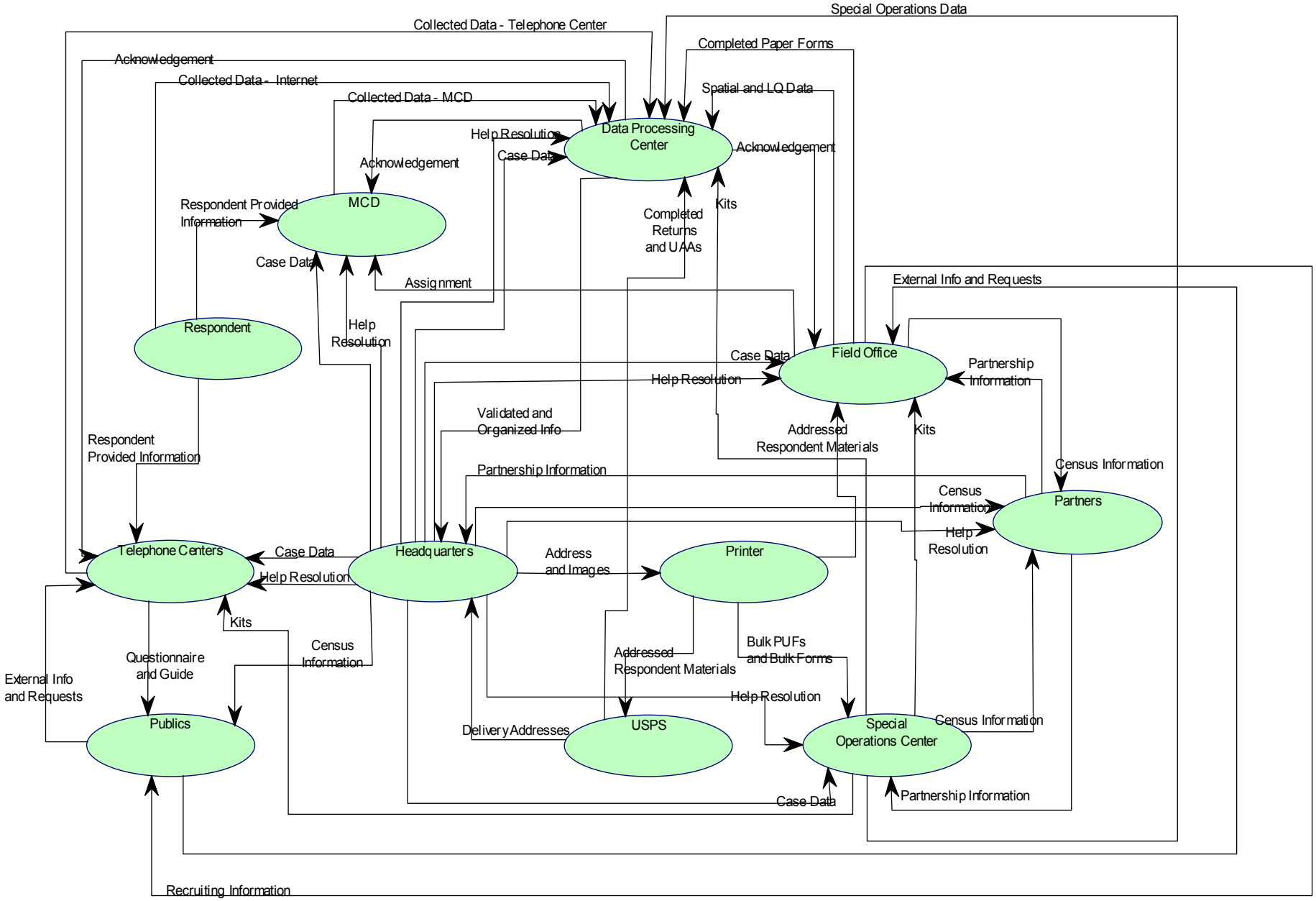
The Information Assurance Risk Assesment is a document that identifies threats and vulnerabilities of information systems or applications and evaluates alternatives for mitigating or accepting the resulting appropriate judgments about system controls and risks. The decennial security planning group will provide guidance on content.

23. NODE CONNECTIVITY DESCRIPTION

Node Connectivity Description (Conceptual)

The Node Connectivity Description is a model that illustrates and describes the business locations (nodes), the needlines between them, and the characteristics of the information exchanged. This is a product that evolves over time as the architecture is developed to increasing levels of detail. At the conceptual level, the nodes are virtual or physical locations at which specific functions are performed and among which the data is shared.

Op. Node High Level
September 30, 2003



Op Node Connectivity Descriptions

Node	Description
Data Processing Center	Includes Data Capture Center functions including translation of responses. The virtual front end at which we receive, process, validate, and transform into single, consistent data formats all information from every data collection source, e.g. payroll, operational status data, spatial data, respondent data and status, etc. (includes NPC data processing functions). Also this includes application of automated codes. It does not include residual coding (auto coding location not specified).
Field Office	These are the decentralized locations from which all data collection and other supporting operations are managed or performed. For example: LCO, CFO, QAC, RCC, ACERO, RO and Storefront.
Headquarters	The virtual location for the creation of products, data review, universe determination, post collection processing, sampling identification, geographic and living quarter update, and estimation and dissemination. Also includes applicant, employee, payroll processing and residual coding (coding location not specified).
MCD	Dispersed field data collectors capturing information in electronic format.
Partners	This includes Federal, State, Local, Tribal, Governmental Units; national and regional associations, community-based organizations, professional and advocacy organizations, and media organizations.
Publics	Various publics such as potential respondents, researchers, academia, association, business, etc.
Respondent	Individuals participating directly in the data collection process.
Special Operations Center	Virtual location that provides logistical support, kit creation, and MCD kit integration, specialilzed services: printing, clerical matching, and BAS processing. Many of these are functions typically performed at the NPC.
Telephone Centers	These are the sites where inbound and outbound telephone operations are performed including assistance, interviews, questionnaire and language guides fulfillment.
USPS	This is the provider of services for questionnaire delivery and return, and ongoing identification of delivery points.

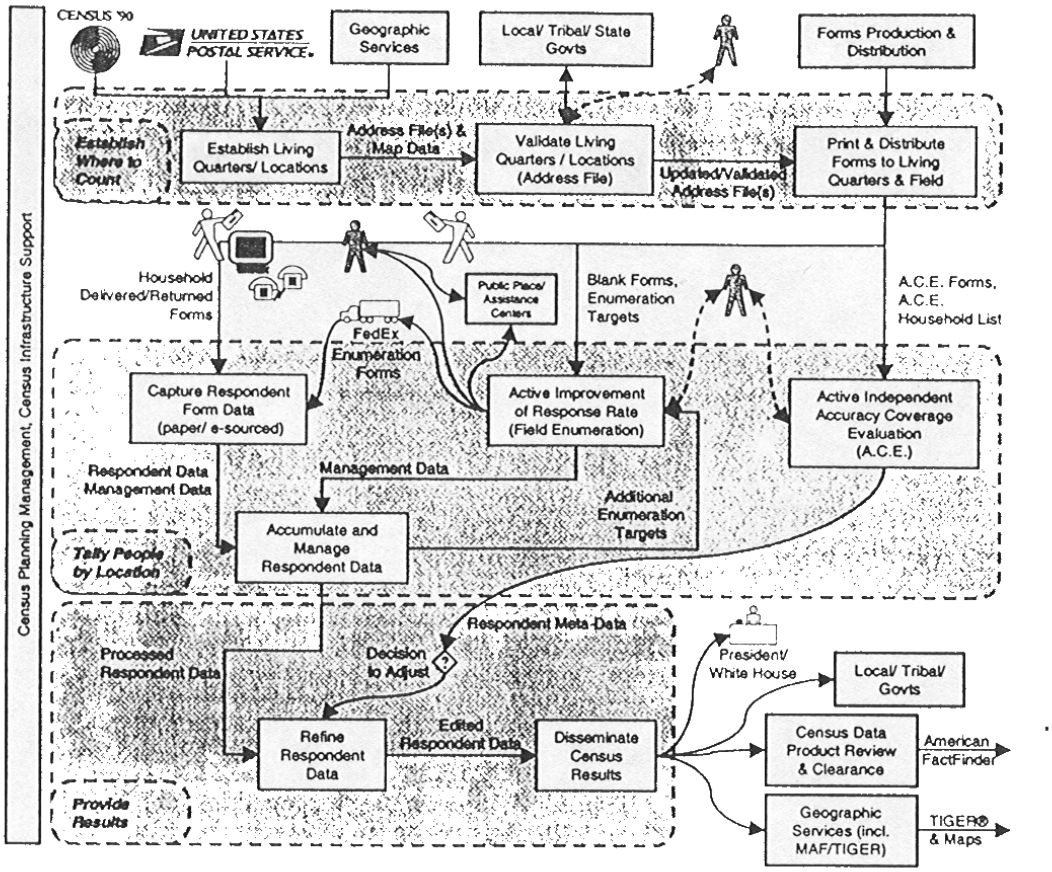


Figure 8. High-level workflow of Decennial Census

This workflow provides a logical perspective of the Decennial Census, without consideration for which organizations own responsibility for implementing the identified processes. This perspective sets the stage for a similar, but much more detailed, analysis of these processes, as presented in the *Census 2000 Logical Architecture Models* section of this volume, and further explored in ***Volume 2: Detailed Models***.

2010 Census Architecture Framework

VIEWS	WHAT	HOW	WHERE	WHO	WHEN	WHY
	DATA	FUNCTION	NETWORK	PEOPLE	TIME	MOTIVATION
Business Architecture (Planner)	1. List of Entities Important to the Business 2. Information Dictionary	3. List of Business Functions 4. Business Reference Model (BRM/OMB) [Lines of Business/ Sub-Functions]	5. List of Business Locations 6. Standards Profile	7. List of Organizations Important to the Business 8. Organization Chart	9. List of Events/Cycles Important to the Business	10. List of Business Goals, Objectives, and Strategies 11. List of Principles 12. List of Critical Business Concerns 13. List of Risks 14. Operational Concept Diagram
Business Architecture (Owner)	15. Entity Relationship Diagram 16. Information Exchange Matrix (Conceptual)*	17. Functional Decomposition Diagram 18. Activity Model 19. Process Model ** 20. Information Assurance Trust Model*	21. Locations Mapped to Functions 22. Information Assurance Risk Assessment*	23. Node Connectivity Description (Conceptual)		
Logical Architecture (Designer)	24. Logical Data Model 25. Information Exchange Matrix (Logical)*	26. Application Architecture	27. Interface Description (Conceptual) 28. Distributed System Architecture (Logical)	29. Node Connectivity Description (Logical)		
Physical Architecture (Builder)	30. Physical Data Model 31. Information Exchange Matrix (Physical)*	32. System Design 33. System Functionality Description	34. Distributed System Architecture (Physical), 35. Technical Reference Model (TRM/OMB) 36. Technical Architecture (as required) 37. System Performance Parameters (as required) 38. Rule Design (as required)	39. Node Connectivity Description (Physical)		

Notes:

1) Gray areas indicate cells that are not currently in scope for architecture development ;

2)* Low priority;

3)** Only for selected parts of the architecture

Changes since the August Framework:

- ✓ Product 27 moved from Owner row to Designer row
- ✓ Product "Customer Needs" has been deleted

Figure 1: 2010 Census Architecture Framework